RADIO-PERCEPTION

THE JOURNAL OF THE

BRITISH SOCIETY OF DOWSERS

Vol. VI No. 46 DECEMBER, 1944

CONTENTS

	Page
Notices	81
Annnal General Meeting	83
Laboratory Research Fund	90
Part One	
The Human Battery	92
Locating Underground Streams	97
Part Two	
An Instrument based on the Bovis Biometre	109
Notes and News	114
Letters to the Editor	116
List of Members	122

Published quarterly by the Society at York House, Portugal St., W.C.2

Price to Non-Members, 1/6

BRITISH SOCIETY OF DOWSERS

COUNCIL

President :

COLONEL A. H. BELL, D.S.O., O.B.E.

Address : York House, Portugal Street, London, W.C.2.

Hon. Secretary and Treasurer :

LT.-COLONEL H. M. EDWARDS, D.S.O.

Address : 56 Oxhey Road, Watford, Herts.

Major C. A. POGSON, M.C. — Captain W. H. TRINDER

O. F. PARKER, A.R.S.M., M.A., F.S.A. — Dr. W. GUYON RICHARDS, M.B., B.A.

OBJECTS OF THE SOCIETY

(*a*) To encourage the study of all matters connected with the perception of radiation by the human organism with or without an instrument.

(*b*) To spread information amongst members, by means of a journal, lectures and other means, about the use of dowsing for geophysical, medical and agricultural and other purposes and for tracing objects animate or inanimate.

(*c*) To keep a register of dowsers for water, minerals, oil, and for other purposes.

RULES OF THE SOCIETY

I.—Membership.

The Society is open to all persons interested in radiation-perception.

The Council has power to appoint honorary members.

II.—Entrance Fee and Subscription.

(*a*) The entrance fee for permanent residents in Great Britain is 10/6, and the annual subscription is 10/-.

(*b*) The entrance fee for permanent residents overseas is 10/6, and the annual subscription 5/-.

The subscriptions under (*a*) and (*b*) may be compounded for by the payment of a Life Member's subscription of six guineas or of three guineas respectively.

The Council is empowered to decide any special cases in connection with the payment of subscriptions.

III.—Management.

The Society will be managed by a Council consisting of a President, who will act as Chairman, and five members, one of whom will act as Treasurer and Secretary.

The President and members will be replaced as necessary by the Council, appointments being confirmed at a General Meeting.

All questions regarding the publication of the journal, lectures, meetings, allocations of funds to promote the objects and interests of the Society, will be settled by the Council.

Decisions of the Council will be arrived at by correspondence if necessary, the facts being recorded in the Minute Book.

Decisions will be decided by a majority vote, the Chairman having a casting vote.

The Council has power to co-opt other members for special purposes.

IV.— Accounts.

The financial year will be from July 1st to June 30th.

Audited accounts will be published annually within two months after the end of the financial year.

V.—General Meeting.

A General Meeting will be held annually, and other meetings when considered necessary by the Council.

JOURNAL OF THE
BRITISH SOCIETY OF DOWSERS

Vol. VI. No. 46 December, 1944

NOTICES

A list of members is included in this *Journal*. Any alterations required should be notified to the Editor.

* * * * *

The Editor would be obliged if anyone who has a copy of ***The Physics of the Divining Rod*** to dispose of would communicate with him.

* * * * *

Radiesthesia II and Dr. Richard's *Medical Dowsing* can be obtained from Dr. W. Guyon Richards, 9 Fordington Road, Highgate, N.6, at 3/6 and 1/1, post free, respectively, or 4/6 if ordered together.

* * * * *

The following additions have been made to the Library: *Pendulum Play*, by Noel Macbeth, 36 pages; ***Response in the Living and Non-Living***, by J. C. Bose, 191 pages; *Water-Divining*, by Theodore Besterman, 203 pages.

* * * * *

Copies of *Dowsing*, by Captain W. H. Trinder, can be obtained from Colonel A. H. Bell, York House, Portugal Street, London, W.C.2, at 6/4 for members and 8/4 for non-members.

* * * * *

The price of *Journals* to non-members is 1/6.

The price of new *Journals* to members, in excess of the free number, and of old *Journals*, is 1/- and 9d. respectively.

Six free copies of the *Journal* will be given on request to writers of articles in it, in addition to the usual copy.

* * * * *

A member who has just resigned has the following *Journals* and books to dispose of:

Journals: Nos. 13-22 (bound); also Nos. 23-44, less 25, loose.

Water Diviners and their Methods, by H. Mager.

The Divining Rod, by Sir William Barrett and Theodore Besterman. Both books are in good condition.

Offers should be sent to the Editor.

Whalebone strips cut to the following dimensions can be obtained from Messrs. Devine and Co. Ltd., St. Stephen's Road, Old Ford, London, E.3, at the price of 5/- per rod (2 strips) :—

Flat : 12in. long x 7mm. wide x 2mm. or 3mm. thick

Circular : 12in. long x 3mm. or 4mm. in diameter

Square : 12in. long x 3mm. or 4mm. square section

Rods made of strips of these sizes have been tested by a number of dowsers and are recommended by the B.S.D. Investigation Committee.

Spherical whale-ivory pendulums can also be supplied at 8/- each. Prices for rods and pendulums prepared to specific dimensions are given on request.

All prices are post free in U.K.

* * * * *

The Society's badges can be obtained from the Honorary Secretary. Owing to the increased cost of postage the price is now 1/3 post free.

* * * * *

Communications for the Editor, and inquiries, should be sent to Colonel A. H. Bell, York House, Portugal Street, London, W.C.2.

ANNUAL GENERAL MEETING, 1944

The tenth Annual General Meeting was held at the rooms of the Royal Asiatic Society, 74 Grosvenor Street, at 3 p.m. on Wednesday, October 25th.

Members present were Colonel A. H. Bell (Chairman), Mrs. Stanton Barnes, Mrs. Barraclough, Mrs. Wyndham Bates, Miss C. H. Bell, Mrs. W. S. Biggs, Mr. B. C. Bugler, Mr. S. Bulford, Mr. H. T. Burrell, Miss M. Cameron, Miss E. Carew, Countess de Chrapowicki, Mr. H. S. Collins, Miss L. Cuppage, Mrs. A. Davie, Mrs. M. Dundas, Mr. L. E. Eeman, Miss V. Fletcher, Lieut.-Colonel J. H. Gibbon, Mrs. M. Glanville, Mr. C. F. Hamilton, Surgeon Captain M. H. Knapp, R.N., Mr. W. H. Lamb, Mr. J. P. Le Grand, Mr. N. Macbeth, Mrs. Merrylees, Dr. W. Nunan, Mrs. C. S. Orford, Mr. O. F. Parker, Major C. H. Pogson, Mr. J. C. Primmer, Mr. J. Quain, Mr. E. F. Ross, Miss N. Stannard, Mr. G. Underwood, Miss B. C. Warner, Mrs. O. V. Yates and Lieut.-Colonel H. M. Edwards (Hon. Secretary).

2. The Minutes of the 1943 meeting were taken as read, a full report of the proceedings having been published in the *Journal* of December, 1943.

3. Colonel Bell read the following report :—

Ladies and Gentlemen,

The most important event of the past year has been the alteration to the Rules, by which the annual rates of subscription and the Life Members' subscriptions have been raised, and an entrance fee instituted.

Many people considered that the original subscription of 5s. was always too low, and it was intended, when five years ago a new code of rules was drawn up, that the subscription should be raised.

Owing to the outbreak of the war the new rules were not brought before a General Meeting for confirmation, and so the increased rates of subscription did not come into force.

There were several reasons why the introduction of the higher rates should no longer be delayed. Besides the increased cost of printing and stationery, you must remember that the Society has hitherto been run on a narrow margin of solvency, and that services which would normally have to be paid for, such as typing and routine clerical work, have been carried out by the Hon. Treasurer and in my office. Such a state of affairs cannot be looked upon as permanent, and it is only meet that the Society's income should be large enough to provide for an office, however humble, and for the payment of some, at any rate, of the clerical work.

Furthermore, the Society has not hitherto been in a position to make adequate grants towards the enfurtherance of the objects for which it was formed, such as research, lectures, meetings,

dowsing for the Army put on a proper basis, and has, I believe, been successful in arousing considerable interest. It is much to be hoped that in a country where an adequate supply of water is often so difficult to obtain, dowsing will come to be recognized as a scientific reality.

I must confess that from what I have heard from a member in North Africa, dowsers are themselves sometimes to blame for the official opposition to their employment, as they do not realise the necessity for an intelligent and well-proven technique, the result being that they are not always able to perform what they claim to do.

Some naturally sensitive people seem to think they are entitled to consider themselves dowsers directly they discover that a twig moves in their hands over water, not knowing that reactions are liable to occur at other points in the intricate field of manifestation which a subterranean conductor gives out, and that there are disturbing influences such as the presence of other streams, of electric cables and so on, which have to be reckoned with.

A proficient dowser should be able to give a reliable estimate of depth and quantity as well as an accurate location. He should, too, when he knows the geological conditions, be able to give the depth and thickness of intervening strata, as described in an article in *Journal* No. 40, and further more he should be able to give an idea of the chemical content of the water.

Several letters have been received from Mr. Wheeler, of Kalamunda, West Australia, and from Mr. George, of Auckland, New Zealand, about their experiments with colours. They are of decided interest, as some of their results agree with observations made in research work in this country.

I want to draw attention to the remarkable instance of sex prediction made by Mr. Bramley and reported in *Journal* No. 43. He foretold the sex of the calves of 15 cows belonging to a farmer, Mr. R. H. Green, and stated that another cow which was thought to be in calf was not actually so. Mr. Bramley was correct in every case; the chance of this occurring is, I think, something like four million to one against, if it be considered that a three-fold choice existed with each cow.

The *Journal* had been produced on the same lines as before until a new volume, VI, was started with No. 44 *Journal*. The opportunity was then taken of changing the title to **RADIO PERCEPTION**, and of dividing the subject matter into categories, the object being to give the *Journal* a more scientific quality. The contents are now printed in three parts: Part I, containing articles on dowsing as an operation explainable by physical laws; Part II dealing with dowsing for medical purposes, while articles on such subjects as map dowsing—that is, the subjective aspect of dowsing—are confined to Part III. I hope members

approve of this new arrangement.

I am sorry that the paper on which the journal is printed has sometimes been of inferior quality. As you know, there has been a great shortage of paper for some years, owing to the enormous amount used by Government and the Services, and to lack of labour for converting the raw material into the finished article. The paper for the last two numbers has been slightly better and also more expensive, but I do not know how long it will be forthcoming. Personally, I think we have been very fortunate to be able to keep up the *Journal* almost at its pre-war size.

As Editor, I express my thanks to all those who have been kind enough to send contributions to the journal, namely: Mr. G. Austin Browne, Mrs. Barraclough, Mr. Benham, Mr. Chapman, Mr. Eeman for the report of his lecture after last year's General Meeting, Mr. Erlank, Colonel Edwards, Mr. Hamilton, Mr. Huntriss, Mr. King, Mr. Maby, Miss MacKeogh, Mr. Parker and Mr. Underwood.

I would like to take this opportunity of asking all members who practise dowsing in the field successfully, to send me for publication in the *Journal* a detailed description of how they work.

I have always held that the operation of dowsing is extremely individualistic. It is somewhat disconcerting to know that that one successful dowser finds certain bands of influence in connection with a stream, whilst other successful dowsers are quite unable to do so. This is no doubt partly due to difference in sensitiveness: for instance, it seems that many people who cannot use the ordinary forked rod can get genuine reactions with an angle rod.

Nevertheless, there must be some fundamental phenomena which all dowsers experience, and a comparison of the methods of different dowsers will greatly assist in the discovery of these general fundamental factors.

The library has not been drawn on to the same extent as last year. The most recent addition is Mr. Macbeth's little book called "Pendulum Play."

* * * * *

Now we come to the *Accounts:*

A Financial Statement was published in the September *Journal*, and copies of the statement are available at this meeting.

You will see that the opening balance of £266 1s. 1d. has risen to £377 14s. 8d. Actual receipts were £192 1s. 8d., as against £140 16s. 9d. in the previous year, mainly owing to sundry Life Subscriptions, whilst expenditure during the year was almost exactly the same as in the previous year, viz., £130 8s. 1d. as against £130 7s. 9d. The item for printing the *Journal*, of £87 11s., in 1942-43, however, included five *Journals*, whereas that

BRITISH SOCIETY OF DOWSERS

Financial Statement: Year ended 30th June, 1944

RECEIPTS.

1942-43. £ s. d.		£ s. d.	£ s. d.
	Brought in—		
	Cash at Bank ..	46 1 1	
	Defence Bonds ..	220 0 0	
255 12 1			266 1 1
112 9 8	Annual Subscriptions		134 18 4
1 13 0	Life ditto		38 17 0
8 7 7	Sales of *Journal*		6 19 10
1 2 7	Sales of Badges		1 2 0
10 10 0	Special and Entrance Fees ..		10 6
—	Donations		3 2 0
6 13 11	Interest on Defence Bonds ..		6 12 0
£396 8 10			£458 2 9

PAYMENTS.

1942-43. £ s. d.		£ s. d.	£ s. d.
22 7 0	Postages and Cheque Books ..		21 7 2
87 11 0	Printing of *Journal*		81 1 1
16 2 9	Printing and Stationery		21 0 4
4 7 0	Meetings		3 17 6
—	Donations		3 2 0
	Balance, 30th June, 1944—		
	Cash in hand and at Bank	107 18 8	
	Defence Bonds ..	220 0 0	
266 1 1			327 14 8
£396 8 10			£458 2 9

H. M. EDWARDS, *Hon. Treasurer.*

I have examined the above Receipts and Payments Account with the Books and Vouchers and certify it to be in accordance therewith.

July 26th, 1944.

A. CECIL STOUGHTON.

of £81 1s. 1d. was for four *Journals*, so you will see that the cost of the *Journal* has risen considerably.

I must draw your attention to the fact that this Statement of Accounts is not a Balance Sheet. Amongst Receipts are some subscriptions which have been paid in advance, whilst a few outstanding subscriptions may have to be added. No account, moreover, has been taken of stock, in the shape of *Journals*, badges, and so on.

Thanks to the kindness of Mr. Cecil Stoughton, the accounts have again been audited without a fee.

4. The appointments to the Council of Mr. O. F. Parker and Dr. W. G. Richards, to fill vacancies caused by the resignations of Dr. H. Munro and Miss M. E. Macqueen, were confirmed by the Meeting.

5. The adoption of the Accounts, proposed by Mr. Ross, seconded by Mr. Parker, was approved.

6. A vote of thanks to the Honorary Auditor, Mr. Cecil Stoughton, proposed by Lieut.-Colonel Edwards, and seconded by Mr. Ross, was carried.

7. A vote of thanks to the Chairman for his address, and for his unremitting labours on behalf of the Society since its inception, was proposed by Mr. Eeman and carried by acclamation.

. . . . . .

The meeting was followed by tea, after which Mr, B. Winter Gonin, F.R.S.M., delivered an address on "The Human Battery," which is printed below.

LABORATORY RESEARCH ACCOUNTS, 1943-44

BOURTON-ON-THE-HILL,
MORETON-IN-MARSH, GLOS.
October 6th, 1944

My Dear Colonel,

I now enclose list of all donations (as shown by my Bank Pass Book and receipt counterfoils) to the Laboratory and Fund since it was opened in 1940, for publication in the *Journal*.

The other facts which you may need for your annual statement are as follows, made up, if you do not mind, to April 5th, 1944, as it is then that I have to do my income tax return, &c. And I will make the same arrangement each year in future.

		£	s.	d.
(1) **Total Receipts from Fees and Donations** between April 5th, 1943, and April 5th, 1944		388	11	2
viz., By Donations to Fund	£31 17 0			
By my own Professional Fees ...	356 14 2			
Total Laboratory and Running Expenses over the same period, 1943-44		249	8	0
(2) Hence **Credit Balance,** applied to the reduction of Bank Overdraft on previous years of B.S.D. research work (1935-40) before institution of the Research Fund ...		139	3	2
Outstanding Amount of Bank Overdraft as on April 5th, 1944, debited to Laboratory Research Account		1663	8	8

N.B.—Since April the Bank Overdraft has been further and substantially reduced, so it appears that the position is being steadily retrieved, thanks to B.S.D. contributions to the Fund, plus my own credit payments. The Laboratory can, therefore, continue to function and radiesthetic research work be carried on as in past years; though my time is necessarily very restricted at present, by the field survey work and associated reports that have provided some 11/12ths of the yearly funds, as will be seen above. Nor will it be possible, until the deficit on the 1935-42 work has been paid off, to spend money on either serious instrumental developments or a laboratory assistant—both of which are, of course, urgently needed.

Yours sincerely,
J. C. MABY

DONATIONS

			£	s.	d.
1940	April	Colonel A. H. Bell	20	0	0
		H. N. Sanctuary, Esq.	20	0	0
	May	L. E. Eeman, Esq.	30	0	0
		Miss M. Cameron	20	0	0

			£	s.	d.
1941	Aug.	Captain W. H. Trinder	25	0	0
	Sept.	Dr. D. Russell	10	10	0
	Nov.	B.S.D. Council (Grant)	25	0	0
1942	July	Captain W. H. Trinder	30	0	0
		Colonel A. H. Bell	10	0	0
	Oct.	Dr. W. Guyon Richards	5	0	0
	Nov.	L. E. Eeman, Esq.	10	0	0
	Dec.	Colonel A. H. Bell	10	0	0
		Major T. E. Hulbert	1	1	0
1943	Jan.	V. D. Wethered, Esq.		15	0
		Colonel A. H. Bell	10	0	0
		J. Page, Esq.	1	1	0
	Mar.	Mrs. Barraclough	10	0	0
	April	J. R. Parkington, Esq.	2	0	0
	May	D. O. King, Esq.	5	0	0
	June	H. M. Sparrow, Esq.	1	0	0
	Oct.	V. D. Wethered, Esq.		10	0
		W. R. Anderson, Esq.	2	2	0
	Dec.	Colonel A. H. Bell	10	0	0
1944	Jan.	O. F. Parker, Esq.	3	3	0
	Feb.	H. M. Gregory, Esq.	2	0	0
		Mrs. F. W. S. Jourdain	1	0	0
		Lieut.-Commander P. Blackwell ...	2	2	0
	Mar.	Mrs. Beresford		10	0
		F. L. Tomlinson, Esq.	1	0	0
	April	Mrs. Bisley		5	0
		W. W. Hawker, Esq.	10	0	0
		Mrs. C. Ward		5	0
	May	Dr. D. Russell	25	0	0
	July	L. E. Eeman, Esq.	10	0	0
		D. O. King, Esq.	5	0	0
	Aug.	Lieut.-Colonel K. W. Merrylees ...	20	0	0
	Sept.	M. St. J. Kelly, Esq.	5	0	0
		TOTAL TO DATE	£344	4	0

NOTE.—The above-mentioned donations to this Laboratory and the B.S.D. Research Fund since April, 1940, and for which I wish to express my sincere thanks and gratitude, are hereby certified by me to have been duly accredited to that Fund and to have been applied to current research in Dowsing and Radiesthesia on behalf of the B.S.D.

J. CECIL MABY

PART ONE

THE HUMAN BATTERY

BY B. WINTER GONIN

Any suggestions as to a scientific explanation of the causation of any manifestation of Radiesthesia—particularly of Dowsing—form no part of my duty this afternoon. I am not entering this field of polemics. Still, light can possibly be thrown upon Dowsing by certain factual observations, but I leave it to each listener to settle for himself how far this can be done, after the electrical make-up of the body has been considered.

Whether Dowsing is entirely a physical or a psychical manifestation or whether it is due to a conjoint activation by both, as in all psycho-physical reactions, is a matter outside the ambit of my talk. Of one thing, however, I am positive, and that is that Dowsing has nothing whatever to do with the discredited theory of psycho-physical parallelism. On the other hand, those who lean towards the theory of inter-actionism, cognize interaction between the spiritual or mental processes and those which are material or nervous. Now, externalization of sensibility lies in the confines between hypnotic and psychical phenomena, but you cannot explain life or life processes in terms of physics: you can only show that physics is merely intelligible in terms of organism. As Professor Charles Fox set out in his *Mind and its Body*: There are four terms to the relation to the Mind-Body problem and they are (1) the person or ego, (2) spiritual forces, (3) the mind and (4) the living body. And this must be taken into consideration when dealing with Dowsing, for a psychology without a soul is a soulless psychology.

Recent discoveries in physics have enabled us to reduce to unity the various phenomena susceptible of analysis through the study of all known radiations—ionic, electronic and atomic—the usual electro-magnetic radiations, radio-electricity, wireless telegraphy, telephony and television.

Georges Lakhovsky in his *Secret of Life* goes as far as to explain *life* as the dynamic equilibrium of cells, the harmony of multiple radiations which react upon one another, and *disease* as the oscillatory equilibrium of cells originating from external causes. On these lines, he explains many things such as migration in birds and beasts and the effects of terrestrial and magnetic currents on all living things. And who is going to say he is wrong?

The investigation of Dowsing—be it normal or supernormal—is not a task, however, to be undertaken by any man, however eminent he be in any particular department of science, without guidance from precursors and without preparation. So what?

So let us study—cursorily perhaps—what physics has to teach

us about the human body and its composition and then, perhaps, some useful, extraneous light may be focussed on our field. But first, a little philosophic ramble. The human is a water-animal by evolution: certainly, he lives in a watery medium during the first nine months of his life. Equally certain is it, that water forms more than three-fourths of the body content and has the highest di-electric constant. This property is responsible for ionization of the infinite number of molecules which water holds in suspension or in solution. It also possesses the highest specific heat and is present in every single chemical reaction.

Evolutionists tell us that life on this planet, thirty million years or so before the advent of Adamic Man, first appeared in living forms in the inter-tidal mud reaches of the torrid primordial seas. These protists—as Haeckel called them—consisted of the very same chemical substances that formed their habitat. They consisted of a single microscopic cell but containing a something—entelechy, *l'élan vital*, a life-essence—call it what you will, that distinguished that cell from all the non-living things from which the Earth is made. It is just that Life-Principle that distinguishes the living from the non-living.

Immediately that life-principle departs from the living cell, the cell reverts to the same non-living matter of the Earth, from which it took its form.

This life-principle has power to build its earthly body out of the very substance of which the earth is made. Every living thing has this power.

This life-principle in vegetable living things has the power to take those substances direct from the ground through their roots and build vegetable bodies from its habitation.

Animal living things obtain these earthy substances by eating these vegetable bodies, but, in the final analysis, they are eating only the Dust of the Ground in organic form, because when the life-principle deserts them, they decompose into the Dust of the Ground. So, it is true that "God made man in His own image out of the Dust of the Ground."

But we are also told that "God breathed into his nostrils the breath of life." Is this also true?

At the moment that a child is born, it may truly be said to be alive, but it only has a sort of vegetative life: it lacks individual entity: its life is dependent upon its mother. One inrushing breath, however, through the tiny nostrils, and behold! the most stupendous accomplishment in all creation has been enacted. "God breathed into his nostrils the breath of life and man becomes a living soul."

That being so, it is only a step to realise that a body potentially perfect falls within the ambit of the Divine Plan. Immediately we grasp the cosmic significance of this, we can appreciate a little of the tremendous responsibility placed upon each of us in

the scheme of Nature.

For, if this life-principle be indeed of the Infinite, we are, in a measure, each of us, responsible to the Infinite for the perfection or imperfection of our building. More, if we are responsible for the building of our bodies, we are equally responsible for their beauty, upkeep and repair. If this be so, there must be a method by which we can learn to make and keep our bodies immune to disease, for a perfect body capable of disease is unthinkable. Now let us come a little closer to this cell.

Dr. George Crile in his *Phenomena of Life* tells us that the human body consists of three trillion cells or thereabouts—a few more or less doesn't matter. The cell is the unit of structure and of function of the living organism. Plants and animals are disparate or disperse system of cell suspensions. The nucleus of the cell is comparatively acid. The cytoplasm of the cell is comparatively alkaline. The nucleus and the cytoplasm are separated by a semi-permeable membrane. Therefore the cell is a bipolar mechanism or an electric battery, the nucleus being the positive element, the cytoplasm the negative element. The rate of oxidation in the nucleus is greater than the rate of oxidation in the cytoplasm; and therefore as the electric tension increases in the nucleus, the electricity passes through the nuclear membrane; the electric potential in the nucleus falls and in consequence the current is interrupted. Since the potential is again immediately restored by oxidation, radiation and other chemical activity, we conceive that an interrupted current passes continually from the positive nucleus to the negative cytoplasm and in consequence a charge is accumulated on the surface membranes. As we have stated, these membranes of infinite thinness and of high di-electric capacity are peculiarly adapted to the storage and adaptive discharge of electric energy.

Properly to understand the application of physical constants to the human mechanism it is necessary to have clearly in mind the electrical significance of certain physical terms such as potential, capacity and conductivity. In simplest terms, *electric potential* means the amount of electricity which is available for use or work in the part of a mechanism which is referred to. It is measured by taking some arbitrary point or part as a zero point and comparing the difference of potential between that arbitrary point and the part of the mechanism the potential of which is to be determined. It is necessary, of course, that these parts be in electric connection with each other. This potential difference is generally designated by the abbreviation P.D. In commercial mechanisms the ground is generally selected as the arbitrary zero point. In our measurements of potentials in different parts of the living mechanism we usually select the fascia immediately beneath the skin as the arbitrary zero point.

The ability of a tissue or of a chemical system to conduct an

electric current from a point of higher to a point of lower potential is called its *electric conductivity*. The ability of a substance or of a chemical system to store electricity is called its *electric capacity*. The mechanism by which oxidation within the protoplasm of the cell generates the electric charges that operate the cell and the organism we postulate is due to the short wave radiation generated and emitted by oxidation within protoplasm. According to this conception this short wave radiation knocks off electrons. These moving electrons charge up the intricate network of the nervous system as well as the infinitely thin membranes that separate the various units of structure and the network within the cells.

The entire mass of the brain that constitutes the actual mechanism of the "mind" consists roughly of two parts—the gray matter and the white matter. It is estimated that in the cerebral cortex there are 1,200 million protoplasmic units of energy-transformation, or cells. The white matter of the brain contains no cells. The white matter of the brain is not a dynamo, it is a matrix on which are recorded the patterns of action. It is in this infinitely delicate white matter, or matrix of the brain that physical conductance paths of microscopic dimensions are established by electric charges as they pass through the matrix. Those molecular paths of conductance become facilitated with the passage of certain specific electric currents which are generated in the cells of the gray matter of the brain.

Since the matrix has no other function to perform, its function is changeless. Its structure is infinitely adopted to the creation of facilitated pathways. But within itself this plastic and passive matrix on which the special senses have caused to be etched this network of conducting pathways of action, furnishes no power whereby it may operate its intricate system. It is in the cells of the gray matter of the brain that the energy required to operate this system is generated. These cells generate and emit radiance originally taken by the plant from the sun's radiance and from the nitrogen fraction of the protoplasm. This solar radiance and the nitrogen fraction derived originally from lightning, from terrestrial electrical forces, and from the nitrifying bacteria are the sole source of the power of the cells to fabricate energy.

Since the only source of energy of animals is the energy which the animal captured in the form of food from the plant, and since the energy held in the plant was captured from solar radiance and from the nitro group in the soil, the energy that operates the brain in fabricating memory, reason, imagination, in expressing the emotions, in fighting and escaping, is not like—but is in fact—the identical radiance which is released by detonation in the radiogens of the protoplasm of the brain cells.

Since in common with the other cells of the organism, the brain cells are electrochemical radiating mechanisms; since their function is an energy function; since the structure and the

function of the brain depend on electrochemical processes and radiation; then, training and education must be purely physical in nature.

In the animal battery as in the man-made battery, when as the result of continuous action the contra-electric current equals the primary current, then the electric circuit is inactive and dead; the electric potential within the circuit and within the cells coincidentally falls to zero—and the animal is dead. Such a death is unique in that there is no struggle, there is only a continuous loss of energy, until the animal or man stops living as inconspicuously as a battery fades to zero. Just as a battery runs down by virtue of polarization and is restored by opening the circuit, so in the case of the billions of brain cells that run down by virtue of polarization as the result of adequate stimulation of the senses, if the stimuli are reduced below the threshold of action, the nerve circuits are opened and depolarization occurs. This is sleep.

To sum up:—We have seen that the human is a water animal, that water has the greatest di-electric constant. It possesses great solvent powers although an imperfect conductor of electricity. We have seen that the human is composed of the mineral ions of earth and we have seen that he is energised by chemical, electrical, magnetic and radioactive agencies. And he is a "receptor" of like influences in his environment, for it is an artifact to separate Man from his environment or universe. All three kingdoms—mineral, vegetable and animal—are all electrically governed, and in this fact lies their relationship. Man is a dual entity, with a conscious and unconscious mind.

What are characteristics of the unconscious mind? Thompson Jay Hudson in his *Divine Pedigree of Man* states these characteristics to be mainly four:—

(1) Instinct or Intuition, Deductive Powers and Memory.
(2) Telekinetic Energy
(3) Telepathy
(4) Natural emotion

Extended to infinity, he suggests that potentially:—

No. 1 betokens Omniscience
No. 2 Omnipotence
No. 3 Omnipresence, and
No. 4 Infinite Love.

This does not mean that we can measure the powers of the Divine Mind or set up any standard of its limitations, but it does mean that we may know something of its essential qualities by an analysis of its emanations; just as we may, by spectrum analysis know something of the qualities of light, without presuming to reveal the extent or potency of solar influence.

Ladies and gentlemen, I thank you for your attention, and trust that what I have said may provoke you all to think.

DOWSING

No. 3

BY GUY UNDERWOOD

LOCATING UNDERGROUND STREAMS

WITH SOME NOTES ON THE PARALLELS—PART I

Before discussing methods of locating streams and the dowsing reactions generally, I should like to be allowed a little space in which to lament the fact that experiments in connection with the phenomena of water divining are extremely monotonous.

Mr. Maby, in one of his writings, mentions plaintively he has carried out at least 3,000 recorded experiments. I think that I must have carried out nearly as many.

The dowser's experiments are physiological, without the advantages of the physiologist. We all know that the latter uses white rats, or guinea pigs, in his experiments, and that they do the real work. The dowser cannot, however, teach white rats to hold divining rods ; his experiments, therefore, must necessarily be upon himself. His own perceptions, through his nerves and muscles, must act as his only detectors of, and are his only means of measurement of, any reactions there may be.

His difficulties are formidable and numerous. Reactions are often delicate and hard to catch. The Dowser's movements are reflex *, and he is liable to control his own reflexes. If he does so his experiments will be misleading, which is infinitely worse than useless.

Preconceived ideas will blind him to obvious facts. Auto-suggestion will provide him with fallacies. They are his enemies. It is hard to frustrate them.

He soon finds that he can accept no new phenomenon as a fact until he has repeated the experiment at least fifty times, with identical results ; and has also experienced the same phenomenon several times by accident, when he was not trying to find it. He must go on, and on, and on until he is sure.

Having thus conveyed to the reader an impression of the immensity and difficulty of my altruistic labours, it is time, at the risk of being tedious, and before turning to the main subject of this article, to say a few words about technique.

They are as follows : To catch the smaller and more delicate reactions it is necessary to use a sensitive rod. The dowser

* Reflex actions are those produced independently of the will. Coughing, sneezing and breathing are reflex actions. Although involuntary, they are controllable to a limited extent. It is generally recognised that the movements of the rod are due to slight reflex alterations which occur in the tension of the muscles of human beings, and probably of all animals, when within the influence of underground streams of water.

who uses a twig should use a very thin or a very long one. The twigs, half-an-inch thick, which some of the crack dowsers (such as Mr. Timms) have used are only suitable for the ultra sensitive. Such people could dowse just as well with a pair of tongs or scissors, or probably with nothing at all. I always use the specially designed sensitive rod described in a previous article.

To distinguish between various reactions of a similar kind, there must be some means of measuring them. Measurement is the basis of scientific research. Scientists will tell you that that which cannot be measured has no scientific existence.

There is no mechanical means of measuring the dowsing influence, mainly because we do not yet know what the dowsing influence is.

Differences in the strength of reactions do, however, exist. The dynamic force of the muscular reactions themselves is, with the normal dowser, slight, and the differences in strength are smaller still. They are therefore extremely hard to catch.

The genuinely ultra-sensitive dowser can gain a rough working guide to the strength of reactions by feeling the pull on his rod, and by counting the number of revolutions the rod will make. The normal dowser cannot sense minute differences in pull, and the twig does not, with him, rotate sufficiently vigorously or consistently.

He must therefore use a rod designed to rotate easily. The best known of such rods is the Motorscope, used by Major Pogson. This consists of a piece of stiff wire, about nine inches long, bent so as to form a crank in the middle with a throw of about half-and-inch. Major Pogson holds this with both hands palm down, and shakes it as he uses it. This shaking is, I assume, to release any check on the rotations due to the friction of his hands. He has a special method of interpreting the movements of this rod, and both he and his father-in-law, who originally designed it, have been most successful with it.

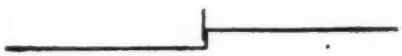


Fig. 1.—*Major Pogson's Motorscope*

A simple rotating rod, which I find works well, is a wire bent similarly to the Motorscope, but with a throw of about two inches. Each end should be fitted with a handle, so as to eliminate friction as much as possible. In my experience it *must* be held with the right hand palm up. If not held in this way it will chatter and not work consistently. I call this rod the Rotogauge, to distinguish it from the Motorscope. No pointer is necessary.

The handles can be of wood or metal, but are better if made of wood with metal bearings. The handles should not be made of

glass, synthetic resin or vulcanite, as these materials generate slight static charges on friction, which entirely upset the working of the rod—a fact which seems to me to be of some significance.

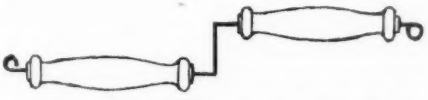


Fig. 2.—*A rotating rod, with handles*

It is, no doubt, difficult for many people to accept the statement that a cranked rod will rotate at all, and more difficult still to believe that it will give only a limited number of rotations for any given strength of reaction. I can only suggest to those who doubt that they should try it. They will find that it is an actual physical fact and an immense help to the dowser.

The reasons for the rotation itself have been explained in a former article. I can give no explanation as to why the number of rotations should depend upon the strength of the reaction. I can only say that I have experienced this phenomenon some thousands of times and have proved it accidentally many times.

The number of rotations vary with different dowsers, but this can be allowed for by altering the length of the throw of the crank. A long throw decreases the number of rotations, and a short throw increases them.

When gauging the minor reactions, these should first be located with a sensitive rod. When the dowser knows where they are they can be measured with a rotating rod. The latter is not sufficiently sensitive to be reliable in finding the small reactions.

Locating the Stream

There is little difficulty in the location of underground streams where we have some surface indications to help us. A good example of a " surface indication " is a well. The dowser knows that there must be a stream running into the well on one side, and out on the other. He can be sure in such a case that the reaction he feels at certain points on each side of the well must indicate water and nothing else.

He can trace such a stream without difficulty, in both directions, with reasonable confidence that another dowser will not come along later and trace it on an entirely different course.

His confidence is likely to waver a little on a site where no surface indications exist; for instance, on flat land where there are none of those interesting little valleys, folds in or ridges on the surface, which give such broad hints to the intelligent observer. Here he has to rely entirely on his skill as a dowser, and he will find it extremely easy to make a mistake.

Few of us are given to enlarging upon our failures and some dowsers tend to give the impression that they never fail. It must be recognised, however, that the difficulties of locating a stream with certainty are very real. No dowser can be sure of doing it always. Anyone who can prove ninety per cent. of successes is a very good dowser indeed. We do not yet sufficiently understand the phenomena which cause the reactions, and are liable to be misled in consequence. Even good dowsers, like good doctors, sometimes disagree.

John Mullins was the most famous of modern dowsers, and was very reliable. His percentage of failures is variously stated to have been from 5 to 1½ per cent., and I expect it was somewhere near or above the former. The best record of which I have heard is that of Major Pogson, whose recorded average of failures, during a certain period in India, and in very arid districts, was about 1½ per cent. Leicester Gataker, who was also very well known and successful, admitted to ten per cent of failures. It can, I think, be reasonably assumed that the average failures of skilled dowsers does amount to about ten per cent., and that the normal amateur can hardly expect to do so well.

This is about the same as the reputed average of failures of civil engineers relying on geology. They, however, have the advantage that they are not expected to specify the exact spot where water will be found, as dowsers are expected to do. If they had to do this their failures would be infinitely more numerous.

Where the engineer proposes to sink into sand, gravel or the like, his job is fairly easy. Other circumstances being favourable, he will obtain the water almost anywhere he may sink.

Where the water is in rock fissures, or in streams running on impermeable strata, he is in a far worse position than the dowser. He cannot tell where the water flows. All he can say is the approximate depth at which the water may be expected. Almost invariably he will sink his borehole or well in the centre of a valley, assuming, or hoping, that the underlying strata will conform to the surfacee contours. Frequently they do not.

He provides against this eventuality in his preliminary report by an intimation that trial shafts and headings may be necessary before sufficient water can be obtained. These are costly. Headings may cost from £5 to £15 per foot, and I have known them having to be driven for long distances. An immense amount of public money has been wasted merely because public authorities have not called in a competent dowser to advise the engineer as to the best place upon which the shaft should be sunk.

I admit that if they did this it would be likely to lead to trouble, as civil engineers regard dowsers with the same envy, hatred and all uncharitableness as that with which "qualified" professional men usually regard unqualified practitioners or, in other words, "quacks." There are, however, a few enlightened engineers.

As Mr. J. P. de Grand, the well-known hydraulic engineer, said in a lecture, " Geology, plus the Dowser, did a little more than can be obtained in any other way."

The main disadvantage of the dowser's position is that he has no qualification, and, in consequence, no standing. Anyone can call himself a dowser, whether good or bad.

It should not be difficult to find means by which examinations could be held. The main subjects of such examinations should clearly be those in which the dowser can be most useful to the public. He is most useful in relation to water in fissures or channels, and is not as much needed where the water is in a saturated stratum such as sand or gravel.

It would be well worth while for a dowser to pay a substantial fee to be examined, if, when he had passed, his status was established, and he was able to charge reasonable fees, as the engineer does.

Such examinations would be of great benefit to dowsers generally, as they would establish dowsing in its simplest form as a proved and unquestionable fact.

Let us now consider the case of a beginner at dowsing. He has discovered that he can use the twig. He has found the stream that feeds a well, and is full of enthusiasm.

A friend who wants water in some remote part of a farm suggests that he should try to find it, and he consents to do so.

We will assume that, unknown to either party, an underground stream does exist on the proposed site ; that there are no surface indications ; that our hero is a normal, and not an ultra-sensitive dowser, and has no knowledge of the technique of dowsing.

On arrival he will soon get a positive reaction, and will trace and mark out the supposed stream with little difficulty. Going further into the field he will, however, find another reaction, and another beyond that. He will be surprised at the amount of water available.

On going further still, however, he will find several others, and will notice that each is the same distance apart and that the direction of each, and the twists and turns of all, coincide exactly with those of the first one. He begins to realise that so much coinciding exceeds the possibilities of coincidence ; that these cannot all be streams ; and that his best course, before going further, is to obtain information about the technique of the art. Crestfallen, he sadly replaces his rod, joins the B.S.D. ; and from the illuminating pages of their *Journal* soon (if he reads the right number) solves the mystery.

The mystery which has baffled him is the " Parallels "—the most important and significant of all the phenomena of dowsing.

The Parallels

It is obvious that the competent dowser must have some

knowledge of the phenomena and technique of the art. The more he has the better he is equipped, and the less likely to be dumbfounded and baffled by some unexpected effect, the meaning of which he is unable to interpret. I propose, therefore, to describe the parallels, their peculiarities and associated phenomena, and how to recognise them, as fully as my knowledge goes.

The influence that is felt by the dowser over an underground stream is called the "positive" influence, and the line of ground vertically above the stream is called the "stream-band."

On each side of the stream-band reaction, and at equal distances from it, are found two other bands of positive reaction similar to, but slightly weaker than, that found over the stream-band. These are usually referred to as the "inner parallels," or merely "the parallels."

Beyond the inner parallels a series of other parallels occur, all equally spaced and parallel with the stream-band, decreasing gradually in strength as they recede from it until ultimately they become too weak to be sensed. All these, together with the inner parallels, are collectively known as the "main parallels." The strength of reaction of each is approximately ten per cent. less than that of the preceding one.

Where a stream is deep and strong 16 or 17 of the main parallels are perceptible to the dowser—these may extend for nearly half-a-mile on each side of the stream. They can only be traced easily, to this distance, in the case of a stream which is reasonably isolated from others. If there is another stream nearby, its parallels will overlap those of the first stream and cause confusion. It is, however, nearly always possible to trace five or six of the parallels on each side of any stream, without difficulty, and these are ample for the purpose of the dowser. Fig. 3 shows the parallels of a deep strong stream giving a reaction of 26 R. and at a nominal depth of 60 feet. The figures show the approximate relative strength of the various parallels. These would extend in perceptible strength for over 300 yards on each side of the stream.

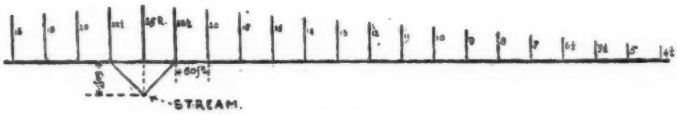


Fig. 3

The inner parallels are the most important because, in the first place, the dowser is able to obtain from them a rough estimate of the depth; secondly, the depth indicated by them forms an essential part of the method of estimating the flow; and thirdly, and most important of all, they are his greatest stumbling-block in locating the stream.

Many sites for wells, located by dowsers, have been failures merely because the dowser mistook the reaction of one of the parallels for that of the stream itself. This error is probably the cause of most failures. Many skilled professional dowsers have recorded cases where this has happened, and I hope to show how this mistake can be avoided.

One of the best examples of this kind of calamity is given by the late Major Creyke in *B.S.D.J.*, Vol. IV, p. 209. He had been called in to advise on a case where two wells had been sunk. One was 25ft. deep and the other 45ft deep. Both had been sited by dowsers, but were unsatisfactory.

He found the stream midway between them at a depth of 16ft. 6in., and had a well sunk there, notwithstanding the remonstrances of the well-sinker, who pointed out the two deeper abortive wells on each side. A satisfactory permanent supply was obtained at a depth of 16ft. 6in. Each of the previous dowsers had mistaken a different one of the inner parallels for the stream!

Having located what he believes to be a stream, the dowser should find and gauge the inner parallels, and measure the distance to them, so as to confirm that the reaction on the supposed stream-band is the strongest, and that the supposed parallels are at equal distances.

He should further confirm his conclusions by finding, and measuring the reactions of, the third, fourth and fifth parallels on each side. Their reactions should show appropriate and progressive reductions in strength. The strength of all reactions on one side should be equal to the corresponding ones on the other side, and if they are not, he should find out why. He should also check the distances apart to see that they are all approximately the same, as they should be.

All this, no doubt, seems very elaborate, but wells are expensive, and those whose money has been wasted in the sinking of fruitless wells are apt to show a remarkable lack of appreciation of the dowser's well meant, but unsuccessful efforts.

One well-known dowser refuses to locate the site for any well unless he can spend two days on doing so. It may be doubted whether it is really necessary to take so long, but I should recommend any dowser to pay at least two visits to any site on which there is any probability of a well being sunk on his advice, so as to check his conclusions.

While on the subject of the parallels I should like to refer to one point which I consider to be of importance to the dowser. It is that a number of people have stated that the position of the parallels, in relation to the stream-band, is liable to alter at various times and for various causes, and some have said that the position of the stream-band itself will also vary. My experience has not confirmed this.

I have carried out a large number of experiments in connection with the parallels. I have never found their position to alter at all, either in wet or dry weather, in heat, cold, or any other condition of the atmosphere or at any time of the day or year.

In my next article I hope to give particulars of some phenomena which may possibly explain this widely held conviction that the parallels alter in position.

Neighbouring Streams

Difficulties will be greatly increased if more than one stream exists. I have seen it stated that where there are two streams near to one another, it is impossible to find either with any certainty. Such a statement is an exaggeration, but the reactions of one stream do interfere with those of a neighbouring stream, and are liable to confuse the dowser.

What can be said is that the more underground streams there are the harder it is to locate any of them. Most of my experiments have been made where there is a superfluity of underground streams, and at one time I nearly gave up dowsing owing to the difficulties encountered. Later, however, I found that these difficulties did not apply elsewhere to nearly the same extent.

I have had no experience in arid districts, but I should suppose that the easiest place in which to locate underground streams would be a desert! There, any underground streams which may exist should be perceptible at very considerable distances.

Crossing Streams

The crossing of underground streams, or of their parallels, can be very disconcerting. It produces the effect which I have heard referred to as a "knot"—that is to say, the dowser will find the strength of reaction of a stream suddenly greatly increased in a certain place. For example, if a parallel of 16R. (revolutions) overlaps one of 20R., the dowser will get a reaction of approximately 36R. *at that point.* He will think that he has come upon a powerful stream until he tries, and fails, to trace the line of a stream of that strength, or, alternatively, to find the appropriate inner parallels of about 32R.

Parallel Streams

The position is worse if two neighbouring streams are themselves approximately parallel. Then if two of the respective parallels happen to coincide he will find what appears to be a remarkably strong stream, which he may be able to trace for some distance. If, however, there are no appropriate parallels then there is no such large stream there, and the strong reaction can only have been caused by the coinciding of two parallels, or of a parallel and a stream band.

The only way I know of distinguishing streams in such a case is to mark out the parallels on the ground, or on a map, measure

their distances and number each with their strength. It is a long and difficult job. If there is any possibility of a well being sunk under such conditions, I should not advise any amateur to give a definite opinion until he has got another good dowser to confirm or otherwise his own deductions, and to share the blame if a mistake is made.

Fig. 4 shows the effect of such coinciding reactions as would result from two streams, of 50 and 60ft. depth respectively, and lying at a distance of 70ft. from each other.

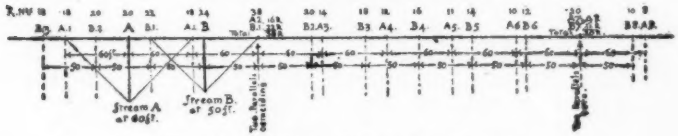


Fig. 4.—*Effect of Parallel Streams*

It will be seen that a maze of reaction strengths is produced, which would completely baffle and mislead any dowser who did not understand the cause. An inexperienced dowser would be almost certain to advise sinking on the inner parallel of stream B, where it coincides with the second parallel of stream A (where he gets the strongest reaction), thus missing both streams.

The reactions would be misleading also in two other places within a space of 220 yards—first where the 7th parallels of both streams coincide on the right of them, and also at another place (not shown) where B5 would coincide with A3 on the left of the stream.

Such a case as this is not at all uncommon.

It is, however, extremely unlikely that both streams would run exactly parallel for any considerable distance. The solution is, therefore, to trace out several of the reaction bands until he finds some which are not parallel with each other. He will then get something like Fig. 5, which will make the reactions of the two streams perfectly distinct from each other and easily understandable. He can then pick out both streams without further difficulty.

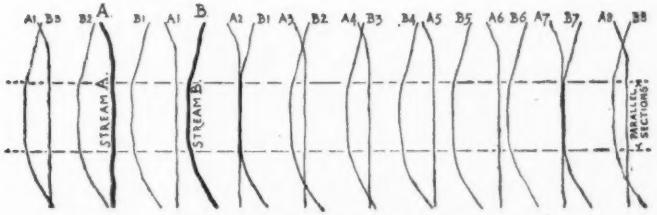


Fig. 5.—*Parallel Streams*

It is hardly likely that it will be necessary to trace out so many of the parallels as I have shown. I have done it to draw attention to the two instances of coinciding parallels. The dowser would probably notice the lack of agreement in the parallels as soon as he had traced the first three or four.

It will be noticed that the parallels cross at certain points. At these points, as previously mentioned, the reactions will be equal to the sum of the two crossing positive reactions.

The Stream-Band and positive reactions generally

Few people have noticed that the stream-band is composed, not of one reaction only, but of three separate positive reactions, a central strong one with a small one on each side. Mr. Maby has observed these and calls the small ones "Margin" or "M" bands.

Each of the M bands has a strength of about a quarter of that of the centre one. It is the combination of the three reactions which gives the impression of width to the stream-band. Many people call it the "width of the stream." So far as I can see, however, it has no relation to the width of the bed of the stream.

The dowsing reactions are not instantaneous. They are slow and cumulative. If, therefore, these three reactions are crossed quickly they will add up and give a total reaction strength approximately equal to the sum of the strengths of the individual reactions.

As an example—if a dowser using a rotating rod approaches a stream of, say, 25R. strength. all he gets on the margin is about 5R., and as soon as he steps forward over the centre of the stream-band he will get the remaining 20R. If he goes forward another step he gets another 5R., and nothing more until he meets one of the minor reactions which I will describe in a later article.

If, however, he walks straight on to the centre of the stream-band he will get 25R., and if he walks straight across all the three reactions to the farther M band he will get 30R.

Fig. 6 may (or may not) make my meaning more intelligible.

Fig. 6.—*Example of Stream-band Reactions*

It will be noticed that I grade the reaction strength of streams by the sum of two reactions and not by the total of all three. My reason for this is that when a reaction is found it is natural to mark the central part. This is the strongest reaction and the easiest to find, and is also useful as a measuring point.

When gauging the strength, and re-checking it, as he does frequently, the dowser has merely to step to this mark, so crossing only two of the three influences. This may not appear very logical, but is convenient. The full reaction strength of a stream-band if fully crossed is, therefore, always one-fifth more than the "nominal" reaction strength used for gauging flow or comparing strengths.

For the sake of clearness I have referred to the stream-band reactions only. The reactions of all the main parallels are, however, exactly the same. They each consist of three parts and are replicas of the stream-band, except for the fact that they have appropriate reductions in strength according to their distance from the stream-band.

In my experience the distance apart of the M bands is no reliable indication of the depth. The parallels are a better guide. They are more easily found and measured, and never alter their positions under any conditions.

It is, I think, generally admitted that positive reactions, so far as streams are concerned, are exclusively vertical. They are also extremely narrow, and certainly do not exceed a very few inches in width. I am inclined to think that they are so thin as not to be measureable. In my observation the dowser does not feel a positive stream reaction until he is in it or has crossed it.

In order to locate exactly the line at which a positive reaction meets the ground I assume that this line is at that point which is under my instep when (using a sensitive rod and advancing very slowly, an inch or so at a time) the rod reacts. This line or point will be the same when crossed in either direction.

With regard to the positive reactions found in connection with masses of metal, such as iron gates, &c., these, as was pointed out in a previous article, are not exclusively vertical. The influence is felt weakly all round such objects, and it seems to surround them very much in the same way as the field of force surrounds a magnet. It appears, however, to be stronger vertically above them; for example, if a dowser crosses a suspension bridge, where he is almost surrounded by iron, he will feel a strong and definite reaction as he passes over each cross girder.

The negative reactions

These do not greatly affect the normal dowser, but it should, I think, be mentioned that the negative influence is not merely a neutral space in which the rod gives no positive reaction, but is an actual force equal in strength to, but of an opposite kind to, the adjoining positive influence. The main difference is that it is spread out and not concentrated into very narrow bands as are the positive reactions.

The movements of ultra-sensitive dowsers are often hard to

understand, but it sometimes seems to me that some of them are more strongly affected by the negative than by the positive reactions. For example, they will sense the presence of a stream at some yards away from it, and gradually approach it with the rod giving a negative reaction more and more strongly as they near the stream. Very few normal dowsers feel the stream until they are over it, when they get the positive reaction.

Lag

As previously mentioned, the dowsing reactions are not instantaneous—they are slow, gentle and cumulative.

When a dowser crosses a stream-band or parallel slowly the reaction will appear to be simultaneous with his entering the reaction. There is, however, always a certain amount of lag. This is clearly seen if he crosses a reaction band quickly. The reaction may be delayed until he has gone from three to eight paces past the reaction band. Eight paces represent about twenty feet or a time lag of about six seconds. On returning in the other direction at the same speed he will get the same delay—this giving two supposed reaction bands at about forty feet apart—whereas the real reaction band is in the middle, as he will discover if he crosses the same course slowly. I find that lag increases if a stiff insensitive rod is used.

To be continued

PART TWO

AN INSTRUMENT BASED ON THE BOVIS BIOMETRE

By W. E. BENHAM, B.Sc., F.Inst.P.

Part II

Wavelengths on Biometre

Note.—Increased experience with the biometre has increased rather than lessened the writer's respect for Bovis's instrument, despite the criticisms which follow.

Difficulties in finding any linear relationship between the known colour wavelengths and the biometre readings obtained on placing colour samples on the terminal led the writer to the discovery that Bovis's calibration of his instrument was defective in some way. For Bovis had specifically calibrated his biometre on the basis that 100° Bovis corresponds to middle red (6500 A). Now even if we neglect the complication caused by Bovis's direction to read the scale at the left-hand corner of the lozenge, an error in calibration is still there. One day the writer decided to try the effect of omitting from the pendulum the colour of which a sample was being tested for on the biometre. In other words, instead of using a Bovis pendulum with its brightly coloured threads, a plain brown suspension was used. A probe cord having a similar constitution was used, thus eliminating the brown colour, and the colour sample placed either on the terminal or under the probe, it being immaterial. The reading now obtained for a red sample was 65 degrees or 13cm., while green (5250 A) was found to give 53 degrees or 10.6cm., violet (4100 A) 41 degrees or 8.2cm. *In these readings, for which no lozenge is employed, it will be noted that there lies a direct relationship, within experimental error, between the measurement in degrees and the electromagnetic wavelength.* Thus 6500 A is one hundred times the number of biometric degrees recorded, as also is 4100 A for violet, while green is very close to this. We thus infer that there is something spurious about the published figures, and that Bovis was led away from the correct relationship by some disturbing factor. The fact is of little practical importance at first sight, for there is no doubt that a lot of useful medical work is possible with the Bovis instrument as it is marketed. But it is of considerable importance from the standpoint of radiesthetic knowledge. The linear relation which has emerged between the known colour wavelengths and the biometre colour readings suggests that there is something about light which travels at a speed of 40 million times the accepted value. Or is it simply the longitudinal component of ether vibration, too small for detection by ordinary optical apparatus?

Other Errors of the Bovis Instrument

These arise from a circumstance which may be regarded as very peculiar. Bovis has in part realised the importance of "sample elimination" as explained in Part I, for he has certainly duplicated the colours of the "*pendule paradiamagnetique*" by including these same colours on the biometre

(*a*) by colouring letters of the lozenge, and

(*b*) by placing red and blue markings on the base board of his medical instrument.

One would have thought, therefore, that so far as concerns interference with the readings one is trying to measure (*e.g.*, medical, botanic, &c.) one would at least have guarded adequately against trouble with red and blue light. Now, so far as the medical instrument is concerned, it appears that there may be sufficient colour on the instrument for "sample elimination" to take place. But the writer was using only a small model which Bovis also supplies, in which the lozenge is stationary and an adjustable ruler slides into a sleeving, thus providing an adjustable length. On this instrument only (*a*) colouring is provided, and no other colour markings, except for some yellow or black for the probe cord. Now when using this instrument the writer found that different readings were obtained in some cases according to whether the eye was looking at the top half of the lozenge (bearing the red lettering) or the lower half (bearing the blue lettering). Only so long as red and blue light in *sufficient* quantity was reaching my eyes did I obtain a single physical reading, otherwise there were also obtained satellite readings on either side. I am absolutely helpless if I close my eyes, and in view of considerable smarting sensations in them which occurred when I was beginning, I formed the opinion that they were actually channels of the force being employed.

Now it turns out, as a result of all this, that Bovis's quoted range of "physicals" for bodily organs in health (120°B to 140°B), corresponds, *either* to interaction between an incompletely eliminated red sample and the wanted radiation of the organ, *or* to what I call "minimum-turned-maximum"—see later—but is incorrect when these spurious manifestations are eliminated by use of sufficient red on the board. Now the presence of satellites may, in some of Bovis's instruments, be a serious source of error, as one may be misled when there is a choice of readings instead of only one. For example, one can, on Bovis's own instrument, obtain what I am pleased to call the true readings at positions several degrees higher than Bovis quotes. In the case of one user of a Bovis medical instrument, the sample elimination was found to be upset through replacement of the red pendulum threads by grey threads, so that this user was getting physicals roughly in accordance with what Bovis erroneously recommends! It is, doubtless, owing to the presence

of "satellites," or of "inverted minima," that Bovis has found it necessary to instruct users to start measuring at 130° Bovis for "physicals" and at 160° Bovis for "psychics." With this limitation one is guided to the inverted minimum or else to the lower satellite in all except a few cases when errors will occur. Provided one could always be sure of measuring the same thing, it would not be so important that one is not measuring the true reading, for one's measure would give the necessary guidance for medical treatments. The writer has found evidence, however, that one will perhaps measure the true reading on one day, when the patient is ill, and when he is better, the lower satellite reading. The result is one is less impressed than one ought to be with the patient's improvement. It is hoped, therefore, that there will be general agreement as to the desirability of providing full sample elimination. In fairness to Bovis, it is necessary to emphasise that he had every intention of doing this, but was misled by measurements made when his sample elimination could not have been adequate. These measurements have been taken as the basis of his system. Finally, there is a pitfall which one would not normally fall into, but which is again peculiar to the use of the red sample on pendulum without adequate sample elimination on biometre. Between the true physical reading, and certain "sub-physical" readings obtainable below 100° Bovis, there must be a minimum position (see Part I). Now the use of a red sample on the pendulum has the peculiar property that as one approaches fairly close to the minimum, the minimum appears to change into a maximum. I have convinced myself that it is this "minimum-turned-maximum" that is frequently (though not invariably) taken as Bovis's physical reading. With the writer's instrument there is full sample elimination on the board and the minimum (though not needed) is unmistakeable.

The Psychic Reading

The writer has revised his estimate slightly as to the normal range of "psychics." Excluding children and mental defectives, by far the great majority of people have psychic readings lying between 210 and 240 degrees. A degree in the psychic reading counts for quite a lot—the range of intelligence corresponding to 30 degrees being considerable. Marked ability is characterised by readings in excess of 240 degrees, genius by 245 degrees, outstanding genius by 250 degrees and over. The highest "psychic" I have ever measured is 258, with two runners-up at 257. It is possible for "psychic" readings to be depressed as through illness, so one must be on the watch for this. On the other hand, "psychics" may be high simply in virtue of the subject having healing radiations about them imparted by a healer or by some healing agency. Healing *can* help the psychic reading up to a point, as will prove valuable to mental hygiene. In such cases

the physicals and psychics move up together, the interval between being constant, and both may reach several hundred, or even two or three thousand—temporarily.

On Bovis's instrument one will probably measure the "minimum turned-maximum," for if one starts measuring at 160 degrees one will probably encounter this before reaching the lower satellite. Similarly when measuring physicals, though in this case not so definitely. The psychic reading is normally weaker than the various physicals (see Part I) so that the minimum will occur nearer to it than to the physical reading.

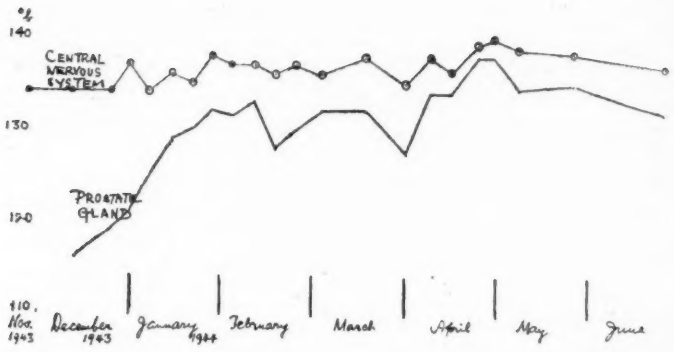
It will be understood that our only reason for speaking in terms of Bovis degrees is that these are largely in use. Moreover, the fact that the true biometre degrees corresponding to colour are one-hundredth of the colour wavelength in Angstroms suggests that Bovis may have originally based his scale on middle red corresponding to 65 degrees before he introduced either the lozenge or sample elimination. There are special reasons why the latter introduces a spurious reading at 112 degrees (100°B) when imperfect. Actually, there is a good case for citing all biometre readings in cm., which is simply a matter of division by 5, when the writer's degrees (°b) are used.

Repeating and Non-repeating Readings

A major pitfall is the fact that certain wavelengths (colours and sub-physicals for example) are repeated at equally spaced intervals. Thus red gives readings at 130°b and at 195°b, as well as at 65°b, and so on. Fortunately they get weaker as we go up the scale. The physicals and psychics appear to be non-repeating, and are usually, but not always, unambiguous.

Healing

A typical record obtained on one of the writer's patients suffering from enlarged prostate is given, showing progress. The writer discovered his powers by means of the biometre in the first instance. Treatment, which is by the method of human radiations (*vide* Mrs. Kingsley Tarpey) commenced at a time when the patient's doctor had urged an operation, a course most distasteful to the patient. The patient made a good recovery considering his age of 70, but has had a slight relapse lately owing to enforced absence from his district. Treatments last some 30 minutes each. The last one was given on 27th May, 1944, and it will be noticed that all treatments were spaced by an interval of a week or more. This was too long; had it been possible to see the patient more often it would have been possible to obviate some of the backsliding that occurred (as at 19/2/44 and 1/4/44). A reading taken off thumb and hand prints at 13/11/44 is not entered on the graph. The prostate gland measured 129°b against 132°b on 26th June and 139°b on the 29th



April. The improvement lost is thus 10°b against a total improvement of 23°b effected between 12/12/43 and 29/4/44. Steps are being taken to check the relapse by absent healing methods, which can be quite effective if employed intelligently. There is no doubt whatever that vitality is being transferred, "suggestion" playing only a secondary role. The above case has been selected partly because the patient is of a particularly sceptical disposition (both by upbringing and vocation) and yet now concedes that the writer has been able to do him far more good than anything else he has tried. When it is impossible to visit patients something is sent to which healing radiations have been transferred. A letter, well rubbed by the healer before sending, is quite good. The patient uses this at or near the affected area for a time not exceeding one hour or so per diem. Evidence of the transference of vitality has been obtained in numerous cases where no knowledge of the healing could have existed. The claim that healing does not take place unless the subject knows he is receiving the treatment is false, and is merely a result of the erstwhile absence of suitable measuring instruments. Without the aid of Bovis's discoveries, the writer would have lacked the confidence to take up radiational healing. Other successes include cases of rheumatism and neuritis, and sundry nervous and gastric cases.

NOTES AND NEWS

Mr. H. O. Busby writes as follows from Cowra, N.S.W.:

"A friend sent me a news cutting from Sydney which said that Miss Penrose had arrived in Adelaide, South Australia. I picked up her direction with a rod, and later, by the same means, decided that she had come to Sydney. I wrote to my friend and suggested that he should try to meet her. Shortly afterwards he met a member of one of the Services whose first question was: 'Have you met a Miss Penrose who has just come to Sydney? I will give you her address.'

"Another instance: About three years or so ago I met a countryman who had cattle grazing in the district. He was interested in dowsing, but knew very little about it. I gave him a little instruction and information. After returning to his farm, about 250 miles away, he wrote to me and asked me if I would attempt to tell him anything about the water on his farm from this distance. I asked for a plan of the land, giving the North point, as well as some point, such as a tree, gateway, &c., as a starting point. He sent back a plan giving two points and asked how far water was from each. I marked two streams, a deeper basin of water, and remarked that the water appeared to flow to the North. He wrote back and said that he and another dowser had been over the ground before he had written to me in the first instance and had put in two pegs. He reported that I had marked both pegs, that another dowser had told him about the basin of water, and the water did flow to the North. I have used the same methods in other directions, with success, I understand, but as they have to do with defence matters I cannot give details. I had difficulty in persuading the "powers that be" that it was not just moonshine. In one particular direction, however, finally notice was taken, and I believe successful results were obtained. I shall, probably, have to wait until the end of the war to find out details.

"I have often traced foxes through the grass and proved that I was correct by hair left on barbed-wire fences and pads on bare patches. On one occasion I missed one lamb of a pair of twins among some stud sheep. I suspected a fox, and picked up a trail with the rod and followed it through long dry grass; the trail finally ended at the dead lamb obviously killed by the fox, tongue torn out, &c. Knowing his usual trail—they seem to follow the same general one for long periods—I got him later. I could quote a number of other instances of a similar nature. I do not work on a map, but on my own land, just as though I were transported to the actual area to be examined. This sounds rather far fetched, but it works, and anything under the actual site on my own land does not have any effect on the rod, while it represents the far-off site. It would seem that the subjective mind

does the actual work and the rod is the go-between which brings the result into the objective consciousness. I also find the direction of a person or thing with the rod, and probable distance, use a compass for the bearing, then plot the result on a map."

* * * * *

The *Record* of August 25th contained a note to the effect that the body of a boy of nine, son of the Rev. S. W. Deakin, Vicar of Woodville, who had been drowned in a clay pit near his home, was located at once by a water diviner, after the N.F.S. had failed to do so.

* * * * *

In the *Birmingham Mail* of August 24th there was a long article about a certain Art Hodgetts, a dowser, apparently well known in the Black Country. On one occasion he located a passage between the crypt of a church and a cottage and stated that there was a considerable cavity adjacent to the crypt. Years later a hidden room was discovered containing bones and remains of clothing.

* * * * *

It was noted in the *Daily Mail*, *Daily Herald* and *Daily Express* of August 29th that 93-year-old water diviner Lorenzo Jasper Barnes, of Grimston, has been engaged as its water consultant by the R.D.C. of Freebridge Lynn, Norfolk. He gave a demonstration to a reporter of the *Lynn Advertiser*, an account of which was printed in their issue of September 8th.

* * * * *

There was a picture in the *Perthshire Advertiser* of October 18th of Mrs. Mary Wyllie, of Mintwood, Aberuthven, demonstrating two of her methods of dowsing and stating that her services had been in demand on both sides of the Border.

* * * * *

According to the *Rugby Advertiser* of September 19th Mr. J. F. Shipley, a consulting engineer and Secretary of the Meteorological Society, gave a lecture on Water Divining to the Rugby Rotary Club, in which he stated that water diviners were successful in fifty per cent. of their tests.

It would be interesting to know where he obtained his statistics.

LETTERS TO THE EDITOR

107 Thornbury Road,
Isleworth, Middlesex.
11th October, 1944

Dear Colonel Bell,

No doubt many Members have read Mr. Guy Underwood's remarks on dowsing in your September issue. Personally, I have found them most interesting, and broadly speaking very much to the point. I agree with him that to obtain the necessary evidence of the correctness of any dowsing it is necessary to sink a shaft or bore in order to confirm and substantiate the Dowser's calculations. One might even go further and say that it is necessary to sink two wells, one on the site divined and another some distance away where according to the Diviner little or no water will be met, otherwise the sceptic can always argue that water would have been found in any case.

I am in the fortunate position of knowing actual results with regard to yields of a very considerable number of boreholes, although it is not often that two bores are drilled in close proximity.

One instance, however, impressed itself very forcibly. A bore had been drilled to a depth of 150ft. in the Lower Greensand and reached the Oxford Clay. No water was found, the hole being completely dry. A Diviner was then called in and located a spot 50ft. away. The second bore drilled at this site passed through exactly similar strata, reaching clay at 150ft., but the result was a supply of 1,000 gallons per hour.

Can any one explain the following: I am quite unable to obtain any movement with the usual V twig, but can always get reactions using the angle iron rod method, even over very small streams. Why this should be so has always puzzled me.

On several occasions I have endeavoured to work the "Bishop's rule," but must say that I have never been able to detect the so-called "inner parallels" on either side of the stream. The rods appear only to react over the stream itself. "Inner parallels" have no effect. As regards calculating the depth, I cannot say that the depth of the stream has any effect on the strength of the reaction of the rods. It does not appear to make any difference whether the stream is 30ft. or 300ft. below the surface.

In this connection, I remember one instance when a bore was drilled to 350ft. in the Weald Clay. Before the bore was put down I was able to detect a slight reaction. This bore was located by a well-known Water Diviner, who claimed that a yield of at least 10,000 gallons per hour could be obtained at 300ft. The actual result was as follows: No water was reached until a depth of 350ft. was penetrated, and the supply then proved to be only 50 gallons per hour. Probably this is a case where a thick bed of clay completely upset the Dowser's calculations. He was quite unaware that the clay formation at this site was at least 600ft. thick.

I find that a rough calculation of the quantity of water can be made by measuring the distance of the reaction across the stream, but, even so, the results are not always consistent. Much seems to depend on the nature of the strata. Thus a stream-band reaction on chalk formation, say 10ft. wide, appears to give a much greater yield than the same width of reaction over sandstone or similar formations.

I agree with Mr. Underwood in that I have never had a satisfactory explanation as to how the professional Dowser calculates depths. I must say that in some instances they have been remarkably correct.

In one case the Dowser stated that water up to 3,000 gallons per hour would be found between 240ft. and 250ft. below surface. A hole was drilled, and after passing through a thick bed of clay, a bed of sand was met at 244ft., and upon testing the well with a pump the yield proved to be exactly 3,000 gallons per hour.

Some years ago I kept several records of the actual results obtained from boreholes which had been previously divined either by professional or amateur Dowsers. The results are rather interesting, and were as follows: Number of wells located, 56. Of these 32 were correct, *i.e.*, the actual results agreed very closely with the Dowser's calculations; 20 were partly correct, that is to say, the results were either considerably less or considerably more than that calculated; four were complete failures, and in these latter cases considerable quantities of clay were present. The sceptic might retort he would have obtained the same results Dowser or no Dowser, and it is perhaps difficult to refute this argument.

As mentioned above, it is really necessary to drill duplicate holes in order to check up accurately in the matter. There are, however, many cases where wells have been sunk and abandoned, and subsequently the Dowser has been approached and the results have been satisfactory.

To sum up, on the whole my view is that the chances of a failure can be distinctly diminished if the Dowser is employed, but at the same time it is very advisable to study the geology of the district and use common sense.

Yours very truly,

J. P. LE GRAND

15th September, 1944

Dear Colonel Bell,

Mr. A. A. Cook's paper on "Instinct or Radial Waves" in the current *Journal* is a valuable contribution to the solution of the perennial problem of the direction-sense. It is much to be desired that the Dowser's ray theory should be definitely stated, seriously investigated, and worked out in its application to the innumerable facts authentically recorded.

One hesitates to quote the sensational and unscientific Lakhovsky, but he is, so far as I know, the only one who in his *Secret of Life* has boldly stated the theory that everything, organic or inorganic, emits rays of an infinite variety of wave-lengths, most of them imperceptible to unaided human senses, but many perceptible to animals and insects specially interested in them, by some means of which we have no knowledge, though Lakhovsky claims to have proved that the transverse canals in the ear of the pigeon are capable of picking up the rays from his house-loft. Dr. Julian Huxley dismisses the theory by a dictum that there is no known organ capable of picking up rays. As everything points to some such power, whether physical or mental, we may, I think, make the assumption and endeavour to apply the theory to the facts. As a tentative beginning, let us take Mr. Cook's instance of the cat homing over 50 miles of difficult country as typical of the countless recorded instances of homing. The cat's one strong desire is to get back to the home and comfort he has been taken away from. His home basket or favourite chair is still emitting his own rays by *rémanence*. (How long will it do so, three months?). His direction organ or faculty at once picks them up, and he makes a bee line for home, constantly guided by the rays.

The pigeon, liberated 300 miles from home (is there a limit?) circles two or three times—sometimes only once—picks up his own *rémanent* ray from his home loft, and makes straight for it. He is liable to accidental interruptions, and does not like flying in the dark. According to Lakhovsky, he has been thrown out of his course by a powerful transmitting station, but may recover it when the station ceases transmitting, or he gets sufficiently wide of its influence.

Pigeon owners who have been notified of the arrival of their birds at the wrong place ask that they shall not be sent back, as, once they have lost their way, they are of no more use.

The instances given by Mr. Cook of animals and birds finding water or damp soil at great distances show that they are natural or intuitive water diviners, and can pick up rays from water as well as from their home, as the classic instance of the dog racing down the sands to the sea, stopping, scratching and finding fresh water.

Investigation should be made of the way in which the theory acts in all the other manifestations of the direction-sense—migration of birds, caribou and reindeer, the journey of the young cuckoo to its unknown parents' winter home in Africa, the breeding trek of the eels to the Sargosso Sea, the apparently insensate journey of the lemmings, the periodic movements of salmon and other fish, and the finding of the female moth by the male. In each case, what is the attraction? What sends out the rays?

An American airman who had observed the migration of birds found that when their time comes they choose an air current that will take them in the desired direction. If none exists on the surface they climb until they find one, and ride it, expending no energy on active flying. Rays from the desired feeding-grounds, and their direction-sense, enable them to choose the right current.

In the case of moths, it has been shown that the antennae are the means of picking up the ray. When cut off, the moth could not find his way.

The bee finds his way from the foraging ground to the hive by the ray from the hive, and if this is moved even a few feet, he cannot find it, but goes to the place where the hive used to be. What sends out the *rémanence* rays in this case? The ground? Surely not the air, which may be in continual motion.

The human race would appear to have originally possessed the direction-sense, but to have lost it. There are, however, well-authenticated instances of aboriginals still having it, and being able to go straight home through many miles of previously unexplored forest. Their children, also, using the practicable winding paths through the jungle, always choosing the right one. May not the ray theory eventually prove to be the explanation of many of the varied activities of the Dowser—water and metal finding, tracing of people alive or dead, &c.?

I do hope that Mr. Cook and many other Dowsers who are interested will pursue this subject, and remove it from the region of vague guesswork to actual detailed investigation of facts of which there is no other possible explanation then the ray theory.

Yours sincerely,

ARTHUR MACDONALD

YEW TREE HOUSE,
BRUNDISH,
SUFFOLK.
October 10th, 1944

The Editor, Radio-Perception

Dear Sir,

I have read O. F. Parker's article on dowsing from photographs in the June number with interest.

I have found photographs as a preliminary to the location of water very useful.

When I went to Central Arabia to locate water, I was shown an enlarged photograph of the camp site taken from the top of a hill. I was shown this while staying at Port Sudan waiting for the Khedivial mail steamer. I worked over the photo and located one fissure of water only and marked it on the photo. When I arrived on the site, I worked in the usual way and found the fissure which coincided with that on the photo. I later

fixed a bore site on that fissure, which, when carried out, yielded a supply of water. *Proof positive.*

Yours &c., H. I. HALLIDAY

HAYNES STREET,
KALAMUNDA,
WESTERN AUSTRALIA.
2nd May, 1944

Dear Colonel Bell,

"Displaced Radiations"

The following experience of mine may be of interest: In water-location this summer I located an only stream of any consequence in the corner of a small townsite block; the part was not cleared land, and there were trees and scrub bushes in the vicinity when the boring firm came to work. As the boring firm did not believe in Dowsing for certain reasons of their own, and as it was a bit awkward to set their plant on the centre of the stream, they put the bore down ten feet off the stream's centre. More out of curiosity than anything else, I tried the rod over the original stream, and was astonished to find I could get no reactions; on trying where the drill was bumping at the borehole, I found I could locate the stream's apparent centre at the borehole, with the sidelines on each side, the same as the original stream. The next morning, before the firm commenced boring, I tried over the original stream, and found the reactions quite normal, but on trying at the borehole the displaced radiations had disappeared, only to return again when the boring people started work.

I had a certain amount of uneasiness from this experience, so I took a length of galvanized iron pipe and stepped a few feet off a known stream, and started to bump the ground in a similar manner to a boring drill. After thirty bumps I tested the stream, and its radiations had disappeared and were found where I was bumping. By testing continuously, the radiations could be found moving back gradually till they reached their correct points on the stream.

In *B.S.D.J.* for June, 1939, Miss Evelyn M. Penrose gives her experiences, and also mentions Mr. W. W. Hawker stating he knew a man who could stop underground water from running, and she asks, were the emanations or waves given off by the water diverted? This was apparently done by tapping *on* the stream. Mr. A. A. Cook, in his book *Radial Detection*, also mentions diverting the stream's radiations by hammering over the stream, but this is the first I have heard of *drawing* a stream's radiations away from the stream by bumping in a neutral spot. It can quite easily be seen that grave errors may occur in working if a dowser happens to be working in the vicinity of, say, machinery running with a thumping motion.

Yours sincerely, A. J. WHEELER

SUNNYMEADE,
9 FORDINGTON ROAD,
HIGHGATE, N.6.
September 24th, 1944

To the Editor of Radio-Perception

Dear Sir,

Congratulations on the September, '44, number; every article interesting. I am surprised that Mr. Cecil Maby is uncertain about residual impressions. This is a well-known phenomenon to medical practitioners who used Radiesthetic means of testing. Abrams' followers were instructed to disinfect their testing sets with a magnet from the residual vibrations of the last patient before testing a fresh one. If one has not got a magnet the use of one's hands is effective.

It has been stated many times that residual vibrations remain for a length of time equal to the time the actual object has been in position. For long periods this must be rather difficult to prove. For short periods, say minutes or hours, Mr. Maby can easily satisfy himself with rod or pendulum, by serial numbers if he likes that method, far more easily by using actual substances. For instance, this morning I placed a florin, a threepenny bit and a penny on my table on marked spots for 20 minutes. I tested these spots every five minutes with the corresponding coin in my left hand. My pendulum gave vigorous gyrations at five minutes, at 20 minutes the action was clear but feeble.

In any case, residual vibrations are of importance in medical work, and for accurate results disinfection is necessary.

Residual vibrations may account for ghosts, seen or felt. Certainly hate in a house continued over years leaves an unpleasant atmosphere. A cathedral acquires a different atmosphere from a cinema. I could go on and quote numbers of examples of this sort of phenomenon. The pendulum is a very delicate form of antennae, and by its use one can receive impressions perhaps not recognisable with a rod, but surely it is not the instrument used as an antenna that is "suggestible" but rather the user. My experience is that it is impossible to make the pendulum act contrary to the laws which govern its movements.

Those laws are entirely due to the user. With me the pendulum gyrates clockwise over positive substances; in Mr. Maby's hand it gyrates anti-clockwise, and we cannot alter this.

I trust Mr. Maby will forgive this friendly criticism from his admirer.

Yours sincerely,

W. GUYON RICHARDS

LIST OF MEMBERS

* Life Members.

*Abercromby, Colonel Sir George, Bt., D.S.O., Forglen, Turriff, Aberdeenshire.
Aldworth, C., 55 St. Thomas Road, Sheffield 10.
Allan, Mrs., 16 Cambridge Park, E. Twickenham, Middlesex.
Allison, A., York Cottage, Pound Street, Petworth, Sussex.
Anderson, Miss E. M., Auchengower, Cove, Dumbartonshire.
*Anderson, W. R., 27 Montgomery Road, Edgware, Middlesex.
Andrewes, Mrs., The Wigwam, Esperanza, Natal.
Andrews, D. W. J., Marymede, Bayshill Road, Cheltenham.
Anning-Millot, Mrs., 1 Dukes Avenue, Church End, Finchley, N.3.
Arago, Commander F., Barton Seagrave Hall Hotel, near Kettering, Northamptonshire.
*Ashley, W. H., The Indian Radio and Cable Communications Company Ltd., Beam Wireless Station, Poona 6, India.

*Bacon, Sir Hickman, Bt., Thonock, Gainsborough, Lincs.
Bainton, A. W., Fir Croft, Winter Hill, Cookham Dean, Berks.
*Ballard, Mrs. Stephen, Grovesend Lodge, Colwall, Malvern.
Barber, S. S., Ferry View, Horning, Norwich, Norfolk.
Barley, G. G., M.P.S., 38 New Cavendish Street, W.1.
*Barnes, Mrs. F. Stanton, Holly Bank, Quarndon, Derbyshire.
*Barraclough, Mrs., 96 Castlenau, Barnes, S.W.13.
Barrett, Miss E., c/o Midland Bank, Bishops Stortford, Herts.
Barrow, General Sir George, G.C.B., K.C.M.G., Swyllmers, The Lee, Great Missenden, Bucks.
Bassano, Miss V., Viking Cottage, Lindfield, Sussex.
Bates, Mrs. G. Wyndham, Torr, 11 Riddlesdown Avenue, Purley, Surrey.
Battersby, H. F. Prevost, Creek End, Smugglers Lane, Bosham, Sussex.
Baxter, A. G., M.S.F., M.H.P.A., 118 Hunter House Road, Hunter's Bar, Sheffield 11.
*de Beaumont, Mrs. G., Blairlogie Hotel, Menstrie, Clackmannanshire.
Belfield, R., M.Inst.C.E., M.I.E.E., Whitehall, St. Peter, Barbados, West Indies.
Bell, Colonel A. H., D.S.O., O.B.E., The Old Vicarage, Cuckfield, Sussex.
Bell, Miss C. H., The Mount, Hampstead, N.W.3.
*Bell, Mrs., Kyson Point Cottage, Woodbridge, Suffolk.
*Benham, W. E., B.Sc., F.Inst.P., F.R.S.A., A.M.I.R.E., at Commonwood House, Chipperfield, Herts.
Bennett, J. H., Lammagh, Newtown Forbes, Co. Longford, Eire.
Bensusan, S. L., Godfrey's, Langham, Colchester, Essex.
Bergen, F. W., Makirikiri S., Marton, New Zealand.
Biggs, Mrs., 7 Sussex Place, London, W.2.
Billingham, W., The Range, Whitehill Road, Kidderminster, Worcestershire.
Bisset, Mrs., 23 Woodbury Drive, Sutton, Surrey.
Blaauw, H. T. G., J.P., Marriners, Chailey, Lewes.
Blaauw, Mrs., Marriners, Chailey, Lewes.
Black, Mrs. J. A., c/o Lloyds Bank Ltd., Cox's and King's Branch, 6 Pall Mall, S.W.1.
*Blackwell, Lieut.-Commander P. F. B., R.N., c/o Barclays Bank, Rickmansworth, Herts.
Blanchard, R. A., 7828 S.E. 28th Avenue, Portland, Oregon, U.S.A.
Bloor, S., 3 Gower Street, St. George's, Oakengates, Salop.
Bobadilla, L., 1952 Strathmore Street, Wilmar, California.
Bolongaro, J., Byeways, Spelsbury Road, Charlbury, Oxon.
Bolt, A. J., 7 St. Simons Road, Southsea.
Bond, C., Wessington Court, Woolhope, Hereford.

*Bone, W. R., Toorak, 24 Sydney Road, Guildford.
Borland, Mrs. A. Y., Middleton Lodge, Munstead Park, Godalming, Surrey.
*Boyer, Mrs. L. J., Estancia Alto Ongamira, Capilla del Monte, F.C.C.N.A., Argentine Republic.
Bradyll-Johnson, Commander V. A. L., R.N., 6 Park Lane, Milford-on-Sea, Hants.
Bramley, F. E., Walton-le-Wolds,)near Loughboro, Leicester.
*Branch, H. F., Claybury, St. John, Barbados.
Bremner, Colonel A. D. St. G., M.C., Mansfield Cottage, Benson, Oxford.
Bridson Jones, T. E., Falcon Hotel, Douglas, Isle of Man.
Bringwood, F. A., 46 Cracknell Road, Annerley, S. Brisbane.
Brown, D. G., F.R.G.S., S.P.R., Blythswood, Yealm Road, Newton Ferrers, near Plymouth.
Browne, G. Austin, The Red House, Montreal Park, Riverhead, Sevenoaks, Kent.
Browne, O. H., Bower House, Soberton Lane, Droxford, Southampton.
Bruton, H. G., 143 Hollow Way, Cowley, Oxford.
*Budgett, H. M., Kirtlington Park, Oxford.
Bugler, B. C., 47 The Hollins, Sowerby Bridge, Yorks.
Bulford, S., Cheswick Farm, Meath Green, Horley, Surrey.
Bulkeley, G. V. C., Pentrelew, P.O. Box 7, Escombe, Natal, S.A.
Burlton, R. Ferrer, 25 York House, Church Street, W.8.
Burrel, H. T., 10 Grantley Gardens, Guildford, Surrey.
Burrows, Mrs. H. J., Burrow Kot, Waylands, Lustleigh, S. Devon.
Burton, Mrs. R. D., Surgates, Marley, Exmouth, Devon.
Busby, H. O., Garrallan, Cowra, New South Wales.

Caithness, The Earl of, Auchmacoy House, Ellon, Aberdeenshire.
Cameron, E. A., Armadale, Fortrose, Ross and Cromarty.
Cameron, E. C., Moray Group, Maskeliya, Ceylon.
Cameron, Miss M., 24 Baker Street, W.1.
Cann, F. N., Swiss Mount, Market Drayton, Salop.
Capes, J. L., B.Sc., Turf Club, Cairo, Egypt.
Carew, Miss E., 53 Lowndes Square, S.W.1.
Cargill, Lieut.-Colonel S. T., 14 Boxwell Road, Berkhamsted, Herts.
Carruth, J., Kirkton, Houston, Renfrewshire, N.B.
Carter, F. D., Upper Green, Inkpen, Newbury, Berks.
*Cassini, P., 160 Perry Road, Bandra, Bombay.
*de Castro, Miss M. B., 12 Buckland Crescent, N.W.3.
Cathcart, G. C., M.A., M.D., 11 Upper Wimpole Street, W.1.
Chapman, Miss J., c/o Westminster Bank Ltd., 224 Kings Road, S.W.3.
*Chapman, P., M.C., M.Inst.H.E., 8 Rue Fouad 1er, Alexandria, Egypt.
Chipperfield, M. H., Hall Road, Foulsham, Norfolk.
de Chrapowicki, Countess Maryla, Flat 169, 29 Abercorn Place, St. John's Wood, N.W.8.
*Churches, Dr. Evelyn, Hersent House, Winchester.
Clark, Mrs. H. M., 21 King Edward Road, Ipswich.
Clarke, J. A., c/o C. R. Garrett, High Street, Wheathampstead, St. Albans.
*Clarke, Captain G. A. E., Vicar's Hill, Lymington, Hants.
*Clarke, John, White Lodge, Ab Kettleby, Melton Mowbray, Leicester.
*Clayton, Mrs. J. W., c/o National Provincial Bank, 250 Regent Street, W.1.
Clemetson, Mrs. Gordon, East Lodge, Groombridge, Tunbridge Wells.
Clendinning, Dr. Elizabeth E., 24 Newton Street, Charing Cross, Glasgow, C2.
Coates, A., The Hutt, Scotsburn, Rowledge, Farnham, Surrey.
Cole, A. Yalden, Okeford, Tring, Herts.
Collins, Miss H. I., Bisham Abbey, Marlow, Bucks.
Collins, H. S., Roseneath, Godstone Road, Caterham, Surrey.
*Collett, Mrs., The Lodge, Hollesley, Woodbridge, Suffolk.
Cologne, H. E., West Down, Meopham, Kent.

COMBES, R., Greenhill, Umzimkulu, Natal.
*COOK, A. A., Greenmount, Walkerston, Mackay, Queensland.
*CORRY, Mrs., Yaldham Manor, Kemsing, Kent.
CORNWALL, E. M., 33 Holbrook Way, Bromley, Kent.
COSH, J. A., c/o Lloyds Bank, Houses of Parliament Branch, Westminster House, Millbank, S.W.1.
*COURTAULD, Mrs. J., Burton Park, Petworth, Sussex.
COWLEY, Dr. Flora L., 1201 Northwest 28 Street, Oklahoma City 6, Oklahoma, U.S.A.
*CRINAGE, E. H., Hambrough Road, Ventnor, I.O.W.
CRUMP, B., Hinpiri, Main Road, Ranchi, Chota, Nagpur, India.
CULL, W. T., The Old Hall, Hoar Cross, near Burton-upon-Trent.
CUNINGHAM, Miss V., 47 Heath Street, N.W.3.
CUPPAGE, Miss L., Seckhams House, Lindfield, Sussex.

*DALE, Major E. C. B., M.C., Madresfield Grange, Malvern.
*DALE, Mrs., Madresfield Grange, Malvern.
DANDRIDGE, Miss T. F., 5 Chinbrook Road, Grove Park, S.E.12.
*DARLINGTON, Miss E. M., Toft Hill, Dunchurch, Rugby.
*DARLINGTON, W. S., The Mast Head, Frant, Sussex.
DAVIDSON, P. A., Makauri R.D., Gisborne, New Zealand.
DAVIE, Mrs., Oaklea, Oakwood Avenue, Purley, Surrey.
DAVIS, Mrs., The Brae, Alexandra Road, Malvern.
DAVISON, Lady, 19 Chelsea Park Gardens, S.W.3.
DAWES, A. C., 14 Belgrave Square, S.W.1.
DAY, W. D., 427 Ferndale Road, Swindon, Wilts.
DEIGHTON-PATMORE, J., Teneriffe, Middle Warberry, Torquay.
DENMAN, F., Backwood, West Grinstead, near Horsham, Sussex.
DENNE, Captain V. A. H., c/o Lloyds Bank, 222 Strand, W.C.2.
DEWAR, Lady, Brookhill House, Cowfold, Sussex.
DIXON, J., M.P.S., 45 Woods Terrace, Murton Colliery, Co. Durham.
DONNE, J. L., The Beeches, Ripple, near Dover.
DUFF, Miss H. M. A., M.A., 18 Victoria Street, Stonehaven, Scotland.
*DUFF, Mrs., Hatton Castle, Turriff, Aberdeenshire.
DUNCAN, P. R., Divisional Forest Office, Chakrata Forest Division, Chakrata, U.P., India.
*DUNDAS, Mrs. R. W., Upper Walton House, Walton Street, S.W.3.
DUNINGTON-GRUBB, Mrs. H. B., 33 Astley Avenue, Toronto, Ontario, Canada.
DYMOND, H. J., 30 Mill Street, Usk, Monmouthshire.

EDNEY, Lieut.-Colonel A. J., R.E., Pouncey's, Brackendale Road, Camberley, Surrey.
EDWARDS, Lieut.-Colonel H. M., D.S.O., 56 Oxhey Road, Watford, Herts.
EEMAN, L. E., 24 Baker Street, W.1.
EGGAR, Sir ARTHUR, Boscarn Hotel, Looe, Cornwall.
ELLIOTT, Colonel A.W., M.C., R.I.A.S.C., c/o Grindlay & Co., Peshawar (Cant.), India.
ENTRIKEN, Mrs., The Gables, Wonham Way, Peaslake, near Guildford, Surrey.
ERDMAN, Mrs., 423 Oakwood Lane, Fullerton, Pa., U.S.A.
ERLANK, R., Box 1, Warden, O.F.S., South Africa.
EVANS, J., Nantyfeen, Llandewy, Penybont Station, Radnorshire.
EVANS, V., N.D., F.F.Sc., 50 Fairhazel Gardens, Hampstead, N.W.6.
FARQUHAR-SPOTTISWOOD, Major T. W., Muiresk, Turriff, Aberdeenshire.
*FENWICK, Lieut.-Colonel C. D. A., West End House, Donhead St. Andrew, Shaftesbury, Dorset.
*FENWICK, J. A., R.E., West End House, Donhead St. Andrew, Shaftsbury, Dorset.
FISHER, Mrs., Whitbourne, 535 Wolverhampton Road, Langley, Birmingham.
FITZGERALD, Rev. H. PUREFOY, M.A., O.B.E., F.L.S., J.P., The Down House, Shawford, Hants.

FITZHERBERT, Mrs., Private Bag, Port Shepstone, S. Coast, Natal.
FLETCHER, Miss V., 39 Mulberry Close, Chelsea, S.W.3.
FLYNN, T., P.O. Lawley, Transvaal, S.A.
FORBES, J. FOSTER, F.R.A.I., F.S.A.Scot., Entry Head, Nine Mile Burn, Carlops, Midlothian.
*FORBES, Mrs., Corse, Lumphanan, Aberdeenshire.
*FORBES-LEITH, Sir IAN, Bt., Fyvie Castle, Aberdeenshire.
FORDE, Mrs., 32 Brunswick Terrace, Flat 2, Hove.
FOX, Dr. EMMET, Hotel Astor, 44 Street and Broadway, New York City.
*FRANKLIN, C., 5 Pembridge Place, W.2.
FRANKLIN, Captain C. S. P., R.N., Fernleigh, Linkfield Lane, Redhill, Surrey.
FRANKLIN, T. BEDFORD, M.A., F.R.S.E., 16 Learmonth Place, Edinburgh 4.
FREEMAN, Miss M., High View, Wilderness Road, Mannamead, Plymouth.
FROOD, Miss D., c/o H. Throckmorton, 1 N. Nuys Building, Los Angeles, California, U.S.A.
FROST, Miss I. R., 3 Chapel Street, Woburn Sands, Bletchley, Bucks.

GADRE, R. N., Assistant Marketing Officer, Nagpur, C.P., India.
*GALPIN, Mrs., Plaatjesfontein, P.O. Dwaal, Cape Province.
GARDNER, J., Lackafinna House, Cross, Claremorris, Co. Mayo.
GEORGE, H., 85 Westend Road, Grey Lynn, Auckland, W.2, New Zealand.
GIBBON, Lieut.-Colonel J. H., D.S.O., R.A., Ampney Crucis House, Cirencester, Gloster.
GIBSON, Miss H. M., Nursted Farm, Petersfield, Hants.
GIBSON, Mrs. T., 113 Balmoral Avenue, Toronto, Ontario, Canada.
GLANDFIELD, Rev. G., Danesbury House, Chalfont St. Giles, Bucks.
*GLANVILLE, Mrs., The Mount, Hampstead, N.W.3.
GOLDSMITH, G. C. N., The Ridge, Spear Hill, Ashington, Pulborough, Sussex.
GOLDWIN, Miss A., Grey Upland, Cowleigh Park, Malvern.
*GORDON, Mrs., Bywater House, Lymington, Hants.
*GORDON, P. L., Lannick, Cross-in-Hand, E. Sussex.
GOSSIP, W. M., 22 Hamilton Street, Inverness.
GOULD, A. A., 46 Clifton Road, Finchley, N.3.
GOUNDREY, J. G., Deddington, Oxon.
GOUTHRO, F. H., 19 North Clark Street, Chicago, Illinois, U.S.A.
*GRAHAM, Sir FERGUS, Bt., Crofthead, Longtown, Cumberland.
GRAHAM, H., 93 Victoria Road, Romford, Essex.
GRANT, Miss J., 11b Sheffield Terrace, Kensington, W.8.
*GRANT, W. D. G., Scotsbridge House, Rickmansworth, Herts.
GRANTHAM, Miss M., Camoys Court, Barcombe, near Lewes, Sussex.
GREEN, Mrs. E. M., J.P., 17 Beverley Road, Colchester.
GREGORY, A., New Road, Loxhill, Hascombe, near Godalming, Surrey.
GREGORY, H. M., Peaslake, Gomshall, Surrey.
GUNDRY, H. E. B., Grange, Honiton, Devon.
GUNDRY, Mrs., Grange, Honiton, Devon.

HADFIELD, Miss C. M., Craigburn, Fortrose, Ross-shire.
HALL, Mrs. C. R., North Waltham Rectory, Basingstoke, Hants.
HALL, Mrs. K., Pentire, 175 Upper Woodcote Road, Caversham, Reading.
HALL, W., Daramone, Newton St. Boswells, Roxborough.
HALLIDAY, Captain H. I., Yew Tree House, Brundish, Suffolk.
HAMILTON, C. F., Stratford Court, Oxford Street, W.1.
HAMILTON, W., Wilanjo, 34 Sunnyside Drive, Williamwood, Clarkston, Renfrewshire.
*HANCOCK, C. D., 27 Searle Road, Wembley, Middlesex.
HARDING, Miss E. M., Bower Ashton, near Bristol.
HARTLAND, Lieut.-Colonel B. S., c/o Grindlay & Co., 6 Church Street, Calcutta, India.
HARWOOD, Miss G. M., High Field, Nutley, Sussex.
HAWKER, W. W., Central Bungaree, Brinkworth, S. Australia.

HAWKINS, Miss W., Paper Mill Lane, Alton, Hants.
HAWKSLEY, L., 75 Victoria Road, Kensington, W.8.
HAYES, Mrs. TRANCHELL, 7 Princes Gate, S.W.7.
*HENDRY, Dr. J. BROWN, 88 Queen's Drive, Queen's Park, Glasgow, S.2.
HENRY, J. A., B.Sc., A.M.I.C.E., P.W.D., Lagos, Nigeria, W. Africa.
HEWITT, A. T. MORLEY, F.S.I., F.A.I., Fordingbridge, Hants.
HEWITT, F., F.S.I., 62 Rosehill Road, Burnley, Lancs.
HIGGON, Mrs. VICTOR, M.B.E., J.P., Little Orchard, Church Road, Fleet, Hants.
HODGES, W., 8 Vernon Park, Bath.
HOLDEN, H., Woodcote, Bromsgrove, Worcestershire.
HOMAN, W. MACLEAN, Friar's Road, Winchelsea, Sussex.
*HONE, Mrs., The Forum Club, 6 Grosvenor Place, S.W.1.
HOOK, P. W., Avebury House, 6 St. Peter's Street, Winchester.
*HOVENDEN, A., Oaklands, Haling Park Road, S. Croydon.
HUDSON, Dr. IRENE B., 1070 Amphion Street, Victoria, B.C.
HUMPHRYS, W. E. H., Metropole Hotel, Minehead.
HUNT, K. H., R.E., Cheniston, Farnham, Surrey.
HUNTER, W. C., 11 Castle Street, Rothesay.
HUNTRISS, G., St. Elmo, Cleeve Hill, Cheltenham.
HURREN, S. A., M.C., F.C.S., 49 Twyford Avenue, E. Finchley, N.2.
HYDE, Mrs., 16 Churchill Road, S. Croydon, Surrey.
HYDE PARKER, A. C., Tesdale House, Marcham Road, Abingdon, Berks.

*INDORE, H. H., The Maharaja Holkar of, G.C.I.E., c/o John Ross C.A., 5 Victoria Street, S.W.1.
*INNES, C. A., c/o Andrew Yule & Co. Ltd., 8 Clive Road, Calcutta.
IREMONGER, The Very Rev. F. A., 9 The Close, Lichfield, Staffs.

JACKSON, T. F., The Dell, Bolton le Sands, Carnforth, Lancs.
JAMES, Brigadier W. A. L., D.S.O., c/o Grindlay & Co., Calcutta, India.
JARVIS, H. W., 37 Regent Road, Surbiton, Surrey.
*JEYES, D. K., M.D., B.Sc., D.P.H., c/o Mrs. Tomkinson, Woodside, Abingdon, Bucks.
JONES, Miss M., 58 The Square, Dunchurch, Rugby.
JONES, Miss O., 23 Throwley Road, Sutton, Surrey.
JOURDAIN, Lieut.-Colonel F. W. S., Army and Navy Club, Pall Mall, S.W.1.

KEEN, Mrs., Mavis Wood, Connaught Way, Tunbridge Wells.
KEIGHTLEY, J. H., Moorfield Farm, Glendale, S. Rhodesia.
*KELLY, M. ST. JOHN, Lohardagar P.O., Ranchi, Behar, India.
KELLY, T. J., 1 New Street, Longford, Ireland.
KEMBALL, C. H., H.D.D., L.D.S., D.D.S., 6 South Inverleigh Avenue, Edinburgh.
KENT, Miss, Porters, Lindfield, Sussex.
*KING, V. ARMANDO, Boul. Centenario, No. 55, Cordoba, Argentine.
*KING, W. D. V. O., D.S.O., F.G.S., Vicuna Mackenna, F.C.P., Argentine
KING, Mrs. GORDON, Wierton Hall, Boughton Monchelsea, Kent.
KING, Mrs. H. A., Pedmore House, Stourbridge, Worcester.
KNAPP, Surgeon Captain M. H., R.N., Junior United Service Club, 11 Charles Street, S.W.1.
VON KNOBLAUCH, Frau ANKA, 33 Adderley Street, Guardian Buildings, Cape Town.

*LAIRD, A., M.M., 16 Lower Grove Road, Chesterfield, Derbyshire.
LAMB, W. H., Lillieshall House, Post Hill, Shrewsbury.
LAMONT, R. W., 15 Low Road, Castlehead, Paisley.
LANGELAAN, H., Lilac Haven, Honiton, Devon.
LANGTON-LOCKTON, N. L., Committee and Private Bill Office, House of Commons, London.
LARKWORTHY, Miss M. V., Coopers Bridge, Liphook, Hants.

LATHAM, L. J.
*LAURIE, A. S., Somerset Farm, Concession, S. Rhodesia.
LAVERTON, Miss S. M., Clifton House, W. Ashbourne, Derbyshire.
LAYCOCK, C., 144 Bushy Mill Lane, Watford, Herts.
LEAKE, Miss K. M., B.Sc., 43 Lancaster Road, Wimbledon, S.W.19.
LEATHER, A. J., A.M.Inst.Gas.E., A.M.I.Mech.E., Colleston, Pleckgate Road, Ramsgreave, Blackburn, Lancs.
LEATHER, Miss H., M.I.H., The Colonnade, Station Place, Letchworth.
LEA-WILSON, Rev. H. W., M.A., St. George's Vicarage, Deal, Kent.
*LEFROY, Lieut.-Colonel H. P. T., D.S.O., Carrigglas Manor, Longford, Eire.
*LEFROY, Mrs., Carrigglas Manor, Longford, Eire.
LE GRAND, J. P., Le Grand Sutcliff & Gell Ltd., Southall, Middlesex.
*LEIGH, Mrs. E., 151 Gloucester Road, S.W.7.
*LELEAN, Rev. A. D., 36 Pleasant Street, Ballarat, Victoria, Australia.
*LEUZE, A., Apartado postal, 2624, Mexico D.F.
LINES, W. G., G. Lines & Sons Ltd., 2 Lode Lane, Solihull, Birmingham.
LLOYD, H. B., 77 Church Lane, Church Street, Edmonton, N.9.
LOMBARD, Rev. B. S., O.B.E., The Lodge, Mount Tabor, Basingstoke, Hants.
LUCY, H. M., 42 Wesley Street, Liverpool 8.
*LYALL, A. G., Abbey Street, St. Andrew's, Fife.

*MABY, J. CECIL, B.Sc., A.R.C.S., F.R.A.S., The Firs, Bourton-on-Hill, near Moreton-in-Marsh, Gloster.
MACBETH, N., Moulsham Millhouse, Chelmsford, Essex.
*MACKENZIE, Engineer-Commander H. P., R.N. (Ret.), Trawalla, Victoria, Australia.
MACKINNON, Major A. L., 177 Queen's Road, Aberdeen.
MACQUEEN, Miss M. E., Frandie, West Cults, Aberdeenshire.
MAHADEVA, S., M.I.C.E., M.I.W.En., Public Works Office, Colombo, Ceylon.
MALAN, Colonel L. N., O.B.E., 10 Blenheim Road, St. John's Wood, N.W.8.
MARSHALL, G. C. R., 10 New Square, Lincolns Inn, W.C.2.
MARTIN, F. A., F.S.A.A., 18 Silver Hill Road, Sheffield 11.
MARTIN, S. R., 5a Leigham Court Road, Streatham, S.W.16.
MATTHEWMAN, F. P., Newlands, Grosvenor Road, Chichester.
MAY, Squadron Leader the Rev. E. W. L., R.A.F., Grindon Vicarage, Thorpe Thewles, Stockton-on-Tees.
MEAD, Rev. A. R., Hopwoods, Sewards End, Saffron Walden, Essex.
MEIGH, W. H., Dole Spring House, Forsbrook, Blythe Bridge, Stoke-on-Trent.
MELLOR, Miss A. LUNA, Frondirion, near Barmouth, Merioneth.
MELLOR, R. O. F., 7 Cornwall Gardens, S.W.7.
MENZIES, Major F. A., M.C., c/o Barclays Bank, Farnham, Surrey.
MERCER, G. F., Blue Gates, Bristol Road, Whitchurch, Bristol.
*MERRYLEES, Colonel K. W., O.B.E., R.E., 102 Whitelands House, Chelsea, S.W.3.
*MERRYLEES, Mrs., 102 Whitelands House, Chelsea, S.W.3.
MILLER, Dr. MARY, 205 West 57 Street, New York City.
MINNS, F. J., 67/68 Saint Aldates, Oxford.
MINTER, R. A., 50 Palace Grove, Bromley, Kent.
MITCHELL, J. A., Analytical and Testing Laboratories, Defence Works Buildings, Mazagon, Bombay.
MORGAN, T. O., c/o Mrs. T. O. Morgan, Greenway Court, Birchwood Road, Parkstone, Dorset.
MORIARTY, Lieut.-Colonel T. B., R.A.M.C., D.S.O., 15 Den Close, Beckenham, Kent.
MORISON, L. J., North End, Henley-on-Thames, Oxford.
MORRIS, Miss M., Upper Flat, 16 Minnis Road, Birchington.
MORTIMER, Mrs., 15 Upper Mall, Hammersmith, W.6.
MORTON, Miss A. A., Vann Water, Ockley, Surrey.

Morton, J. J., Lyndhurst, Main Road, Diep River, Cape Colony.
*Muir, J., 56 Beldon Crescent, Huyton, Liverpool.
Muller, Miss E., 2105 W. Grand Boulevard, c/o Stoll, Detroit 8, Michigan, U.S.A.
Mumford, J., Lower Brailes, near Banbury, Oxford.
Munro, Dr. Hector, M.B., 31 Portland Place, W.1.
*Murari, Captain T., B.Sc., D.A.D.M. Farms, Lahore Cant., N. India.
Murfin, J. L., 9 St. Mary's Road, Leamington Spa.
Musgrave-Brooksbank, Mrs., Blackhill, Lindfield, Sussex.
Musson, R. C., 12 Park Avenue, Clitheroe, Lancs.
Mutter, W. Graham, Latchmoor, Brockenhurst, Hants.
Myers, Miss E. L., 660 Lexington Avenue, New York, U.S.A.
Mylne, Mrs., Oakfield, Fortrose, Ross-shire.
Mylne, Mrs., Lota House, Manly, Brisbane, Queensland.

MacCarthy, Mrs., 1217 E. Broadway, Columbia, Missouri, U.S.A.
MacDonald, A., Hazely, Tring, Herts.
McEuen, E. S., J.P., F.S.A., Fairfield House, Droxford, Hants.
MacHutchin, Mrs., 20 Margravine Gardens, Barons Court, W.6.

Nassif, L. P. G., Farnham Royal Cottage, Farnham Royal, Bucks.
Nicholson, D., Highfield, Knowle Lane, Wickham, Hants.
North, F., Northdene, Natal.
Nunan, W., B.A., M.D., 99 Harley Street, W.1.

*Oakey, P. H., Devonshire Club, Eastbourne, Sussex.
*Oddy, Miss M., 3 South Close, Highgate, N.6.
Oldfield, T. W., The Manor, Hurdlow, Flagg, Buxton, Derby.
*Oldham, Colonel G. M., D.S.O., 33 Amherst Street, Calcutta, India.
Orford, Mrs., 31 Wilbury Avenue, Hove 4, Sussex.
O'Reilly, H., St. Elmo, Marlborough Road, Glenageary Dunlaoghaire, Eire.
*Ormerod, Miss Blanche, Court House, Basil Street, S.W.3.
*Orr, Major O. J. R., R.E., Place Stables, Hartlip, near Sittingbourne, Kent.
Ouless, Miss C., Flat 7, Campden House Chambers, 29 Sheffield Terrace, W.8.

Page, J., 1 James Grove, Kirkaldy, Fife.
Pakenham Mahon, Major S. Hales, Strokestown Park, Longford, Ireland.
Palen, L. S., 17 East 45 Street, Savannah, Georgia, U.S.A.
Palmer, Mrs. C. H., 7 Westfield Avenue, Gosforth, Newcastle-upon-Tyne 3.
Parker, A. M., St. Denys, 24 Yarborough Road, Grimsby.
Parker, O. F., A.R.S.M., M.A. (Eng.), F.S.A., 55 Hilleroft Crescent, Ealing, W.5.
*Parker, Mrs., 55 Hilleroft Crescent, Ealing, W.5.
Parkington, J. R., A.M.I.E.E., A.M.Brit.I.R.E., Electra House, Market Square, Newcastle-Emlyn, Carmarthen.
Peake, B. S., 21 Surrey Road, Bournemouth.
Pearse, A. S., Peel & Co., Ltd., Alexandria, Egypt.
Pedley, G., 19 Ovenden Wood Road, Pellon, Halifax, Yorks.
Pedley, R., 19 Ovenden Wood Road, Pellon, Halifax, Yorks.
Peel, The Countess, Hendersyde Park, Kelso, Roxburghshire.
*Pelly, G. S., B.N. Railway, Kidderpore, Calcutta.
Penrose, Miss E. M., c/o Westminster Bank, Canterbury.
Perez, S., 9 Elmwood Avenue, Kenton, Middlesex.
Perkins, W. F., Boldre Bridge House, Lymington.
Pexton, H., 40 Cottingham Road, Hull.
Philips, C. K., The Chalet, Boars Hill, Oxford.
Phillips, Miss R. S., Dulce Domum, Edith Avenue, Peacehaven, Sussex.
Pitt, Miss M., The Flat, Gerrards Cross, Bucks.
Pogson, Major C. A., M.C., Flat 2, Cromwell Mansions, 1 The Drive, Hove 3, Sussex.

*Pollard, Brigadier G. L. G., M.B.E., Druggon House, Catterick Camp, Yorks.
Ponsonby, Lieut.-Colonel R. G., United Service Club, Pall Mall, S.W.1.
Potter, Rev. M. C., D.Sc., M.A., Corley Croft, York Avenue, New Milton, Hants.
Powell-Cotton, Mrs. P. H. G., Quex Park, Birchington, E. Kent.
Power, F. Danvers, 25 Woodside Avenue, Burwood, N.S.W.
Pownall, Mrs. J. F., Eastwynch, Redhill, Surrey.
Pownall, Miss J. Eastwynch, Redhill, Surrey.
Pradhan, S. R., College of Agriculture, Nagpur, India.
Pratt, The Venerable I. H., B.D., Rossorry Rectory, Enniskillen, Fermanagh.
Prestwich, A. A., Chelmsford Road, Southgate, N.14.
*Price, Captain C. S., M.B.E., 62 Brook Street, W.1.
*Primmer, J. C., 29 Castlebar Park, Ealing, W.5.

Quain, J., 42 Industrial Road, Sowerby Bridge, Yorks.
*Quine, R. A., Rathnew, 17 Church Road, Upton, Wirral.

Radford, G., 5 Highfield Road, Chesterfield.
*Rae-Arnott, G., 42 Crossgate, Cupar, Fife.
*Raikes, J. L., Stratford Lodge, Teignmouth, Torquay.
Raven, Mrs., 18 Sydney Road, Leigh on Sea, Essex.
Reid, E. F., M.A., A.M.Inst.C.E., A.M.Inst.W.E., c/o The Paterson Engineering Co. Ltd., Windsor House, Kingsway, W.C.2.
Reith, Miss G. G., 11b Sheffield Terrace, W.8.
Reside, S. Wilson, M.Inst.C.E.I., F.I.A.A., Margaret Square, Newry, N. Ireland.
*Reynolds, S. J., Hatherley, Battle Boulevard, Seaforth, N.S.W.
Richards, W. Guyon, M.B., 9 Fordington Road, Highgate, N.6.
Richardson, S., 25 Templars Avenue, Golders Green, N.W.11.
Riddell, Mrs. D. M., 125 Cranmer Court, Sloan Avenue, S.W.3.
Ridder, E. H. C., Lansdowne Hills, Halswell, Christchurch, New Zealand
Robinson, G. W., Scothern, Lincoln.
*Robinson, G. L., N.D., M.N.A., 162 Alton Street, Crewe, Cheshire.
Robinson, N., Combe Wood, Brasted, Kent.
Rom, H. U., 68 Compayne Gardens, West Hampstead, N.W.6.
Rose of Kilravock, Colonel Hugh, C.M.G., Kilravock Castle, Gollanfield, Scotland.
Ross, E. F., Scotsburn, Rowledge, Farnham, Surrey.
Runton, P. T., District Bank Chambers, Bradford, Yorks.
Russell, D., LL.D., Rothes, Markinch, Fife.

Samuel, E. P., 30 Mountjoy Avenue, Penarth, Glamorgan.
*Sanctuary, H. N., The Gables, Bridport, Dorset.
Sands, Mrs. M., Brightling Place, Robertsbidge, Sussex.
Saxby, H. B., United Breweries, Abingdon, Berks.
*Scott, Mrs., 148 Grand Avenue, Surbiton, Surrey.
Scott, H. E., 297 Vicarage Road, Marton, near Blackpool.
Scrutton, Miss M. E., Chickmarling,Udimore, Rye.
Selka, Mrs., 68 Emm Lane, Heaton, Bradford, Yorks.
Shaw-MacKenzie, Mrs., Newhall, Balbair, by Conan Bridge, Ross-shire.
Singleman, J., No. 2 Stratford Studio, Stratford Road, W.8.
Skelton, J. A., 143 Marylebone Road, N.W.1.
Slater, W. C., 25 Short Street, S.E.1.
Small, A. T., Govenors Bay, Christchurch, New Zealand.
Smith, Mrs. E., 1 Pearl Court, Devonshire Place, Eastbourne, Sussex.
Smith, Gunner H. S.,
Smith, P. J., 22 Broadway, Broughton, near Preston, Lancs.
Smithers, Mrs. Otway, Itchen, Stoke House, near Alresford, Hants.
Sparling, Mrs. W. C., Fir Bank, Far Sawrey, near Ambleside, Westmoreland.
Sparrow, H. M., 19 Beech Grove, Benton, Northumberland.

SPONG, A. NOEL, Penland Farm, Steyning, Sussex.
SPROTT, F. H., P.O. Box 816, Nairobi, Kenya Colony.
STANNARD, Miss N., 36 Old Hale Way, Hitchin, Herts.
STAPLE, D. R., Harrietsham Rectory, near Maidstone, Kent.
STEMP, R. L., The Homestead, Alton Road, Parkstone, Dorset.
STOCKEL, F., 12 St. Paul's Road, Cheltenham, Gloster.
*SUPERINTENDENT OF INSTRUCTION, 1st K.G.O. Sappers and Miners, Roorkee, India.
SUTTON, A. T. C., A.M.I.C.E., B.Sc., Box 187, Umtali, S. Rhodesia.
SWAIN, A. E., Rose Mount, Twyford Gardens, Banbury, Oxon.
SWAINSON, Miss D., Wytherston, Powerstock, Bridport, Dorset.
SWAN, Captain C. V., M.C., J.P., Hattingley House, Medstead, Hants.
SWANN, Mrs. Blue Bird Cottage, Minnis Bay, Birchington, Kent.
SYKES, E., British Council, British Legation, Teheran, Iran.

TABER, W. Matchyns, Rivenhall, Witham, Essex.
TANDAN, P. D., Tandan's Fruit Laboratory, Quetta, Baluchistan.
TARPEY, Mrs. KINGSLEY, 35 Downside Crescent, Belsize Park, N.W.3.
TAVERNER, J. L., 61 Wellesley Road, W. Croydon.
*THOMAS, R. S., Penguin, Tasmania.
THOMAS, W. E., 40 Margaret Street, Manly, N.S.W.
*THOMSON, Commander RODNEY, D.S.C., R.N., Elmhurst, Tadley, Hants.
TOMLINSON, F. L., Box 84, Lucerne Valley, California, U.S.A.
*TRINDER, Captain W. H., Job's Mill, Sutton Veney, Warminster, Wilts.
*TRINGHAM, Canon H. J. F., M.A., Long Cross Vicarage, Chertsey, Surrey.
TROTTER, R. M., 217 Endsleigh Court, Upper Woburn Place, W.1.
TUCKER, Captain W. A. L., M.M., Glebe House, Weston-super-Mare.
TURNER, Captain A. BROOKE, M.C., Dell Field, 19 Sharmans Cross Road, Solihull, near Birmingham.
TURNER, A. F., 23 Fairfield Road, Bromley, Kent.
TURNER, G. T., 15 Carlton Avenue, Kenton, Harrow.
TURNER, J. STENSON, The Chase, Greenhill, near Coalville, Leicestershire.
*TWEED, Lt.-Colonel J. R. H., M.C., M.B.E., 1/19 Hyderabad Regiment, Agra, India.
TYLDESLEY, A., Myerscough, 86 Namu Road, Bournemouth.

UNDERWOOD, G., Belcombe House, Bradford-on-Avon, Wilts.
UTTLEY, H., Midhope Reservoir, Stocksbridge, near Sheffield.

VARVILL, Flying Officer J. K., R.A.F., M.C., 6 Briardale Gardens, N.W.3.
VAUGHAN, G. T., Bryn Haul, Builth Road, Radnorshire.
VAUGHAN-SPENCE, A., The Little Old Man, Ambrose Street, Cheltenham.

WALDON, G. H., Monmouth Golf Club, Monmouth.
WALKER, Mrs., 15 Ovington Court, S.W.3.
WALKER, T. K., 25 High Grove Road, Gatley, Cheadle, Cheshire.
WALLACE, C. P., Edenglass, Nairn, Scotland.
WALLIS, H. R., M.B.P.S., 74 North Drive, Hounslow, Middlesex.
WALPOLE, R., 114 Wallace Street, Wellington S.1, New Zealand.
WALTER, Mrs. J., Penmere, 7 Avenue Elmers, Surbiton, Surrey.
WARNER, Miss B. C., 7 Lansdowne Road, Croydon, Surrey.
WATSON, G. C., Edendale, Hartley, S. Rhodesia.
WATSON, Dr. T. T. B., 79 Cambridge Gardens, W.10.
WEATHERBY, Miss K. E., c/o Mrs. Hill, Donhead Cottage, Donhead, Shaftesbury, Dorset.
WEBBER, J., 103 East Street, Corf Castle, Dorset.
WEDDERBURN MAXWELL, Miss D., Middlebie, South Farnborough, Hants.
WEEKS, Miss N. G., Mount Vernon, Sotwell, Wallingford, Berks.
WELCH, Mrs. MALCOLM, Stedham Mill, Midhurst, Sussex.

WESTLAKE, A. T., B.A., M.B., B.Chir., M.R.C.S., L.R.C.P., Sandy Balls, Godshill, Fordingbridge, Hants.
WETHERED, V. D., B.Sc., 39 Garrick Close, Walton-on-Thames, Surrey.
WHARTON, E. A., M.R.C.S., L.R.C.P., The Cottage, Buckhurst Park, Withyham, Sussex.
WHEATCROFT, J. D., Park View Lodge, Park View Road, Tottenham, N.17.
WHEELER, A. J., Haynes Street, Kalamunda, W. Australia.
WHITE, H. S., 15 Wickham Crescent, West Wickham, Kent.
*WIGELSWORTH, Dr. J. W., 1708 Oak Grove Avenue, San Marino 5, California, U.S.A.
WIGRAM, Mrs., 9 Keble Road, Oxford.
*WILLIAMS, Mrs.
WILLIAMS, G., Hailey, Ipsden, Oxford.
*WILLIAMS, G. A., 43 Leinster Gardens, Bayswater, W.2.
WILLS, Mrs. M. Blanche, c/o Williams Deacons Bank Ltd., Matlock, Derbyshire.
WILSON, Lieut.-Colonel E. B., D.S.O., Estate Office, Hooton Pagnell, Doncaster.
WILSON, Sir MURROUGH, K.B.E., Cliffe Hall, via Piercebridge, Darlington.
WINER, A. L., D.Sc., 70 New Cavendish Street, W.1.
WINER, E., M.N.C.A. (Eng.), N.D., D.O., 70 New Cavendish Street, Harley Street, W.1.
WOODWARD, F. R.,c/o Stuart Turner Ltd., Henley-on-Thames, Oxon.
WOODWARD, W. A., 139 Lordship Lane, Tottenham, N.17.
WOOLLEY, G. H., 92 Netherton Road, Workshop, Notts.
*WORRALL, W. J., Culworth Lodge, Culworth, Banbury, Oxon.
WÖSSNER, Miss A., 3 Broadlands, North Hill, Highgate, N.6.
WOTTON, C. J., Rosemary Cottage, Townlake, near Tavistock, Devon.
*WRIGHT, D. D'AUVERGNE, F.R.C.S., M.R.C.S., L.R.C.P., Lotus Cottage, Wynberg Park, Cape Province.

YATES, Mrs., 14 Stanford Court, Cornwall Gardens, S.W.7.
YOUNGER, G. W., F.S.A., Woodehurch, Knoll Road, Dorking, Surrey.

OVERSEAS MEMBERS

AUSTRALIA

Busby, H. O.
Bringwood, F. A.
Cook, A. A.
Hawker, W. W.
Lelean, Rev. A. D.
Mackenzie,Engineer-CommanderH.P.
Mylne, Mrs.
Penrose, Miss E. M.
Power, F. Danvers
Reynolds, S. J.
Thomas, W. E.
Wheeler, A. J.

TASMANIA

Thomas, R. S.

NEW ZEALAND

Bergen, F. W.
Davidson, P. A.
George, H.
Ridder, E. H. C.
Small, A. T.
Walpole, R.

INDIA

Ashley, W. H.
Cassini, P.
Crump, B.
Duncan, P. R.
Gadre, R. N.
Hartland, Lieut.-Colonel B. S.
Indore, H.H. the Maharajah of
Innes, C. A.
James, Brigadier W. A. L.
Kelly, M. St. John
Merrylees, Lieut.-Colonel K. W.
Mitchell, J. A.
Murari, Captain T.
Oldham, Colonel G. M.
Pelly, G. S.
Pradhan, S. R.
Tandan, P. D.
Tweed, Lieut.-Colonel J. R. H.

CEYLON

Cameron, E. C.
Mahadeva, S.

CANADA

Dunington-Grubb, Mrs.
Gibson, Mrs.
Hudson, Dr. Irene

WEST INDIES

Belfield, R.
Branch, H. F.

ISLE OF MAN

Bridson Jones, T. E.

NORTH IRELAND

Pratt, Venerable I. H.
Reside, S. Wilson

NIGERIA

Henry, J. A.

CAPE PROVINCE

Galpin, Mrs.
von Knoblauch, Frau A.
Morton, J. J.
Wright, Dr. D. d'Auvergne

NATAL

Andrewes, Mrs.
Bulkeley, G. V. C.
Combes, R.
Fitzherbert, Mrs.
North, F.

TRANSVAAL

Flynn, T.

ORANGE FREE STATE

Erlank, R.

RHODESIA

Keightley, J. H.
Sutton, A. T. C.
Watton, G. C.

KENYA

Sprott, F. H.

UNITED STATES

Blanchard, R. A.
Bobadilla, L.
Cowley, Dr. Flora L.
Erdman, Mrs.
Fox, Dr. Emmet
Frood, Miss D.
Gouthro, F. H.
Miller, Dr. Mary
Muller, Miss E.
Myers, Miss E. L.
MacCarthy, Mrs.
Palen, L. S.
Tomlinson, F. L.
Wigelsworth, Dr. J. W.

ARGENTINE

Boyer, Mrs.
King, V. A.
King, W. D. V. O.

EGYPT

Capes, J. L.
Chapman, P.
Pearse, A. S.

IRAN

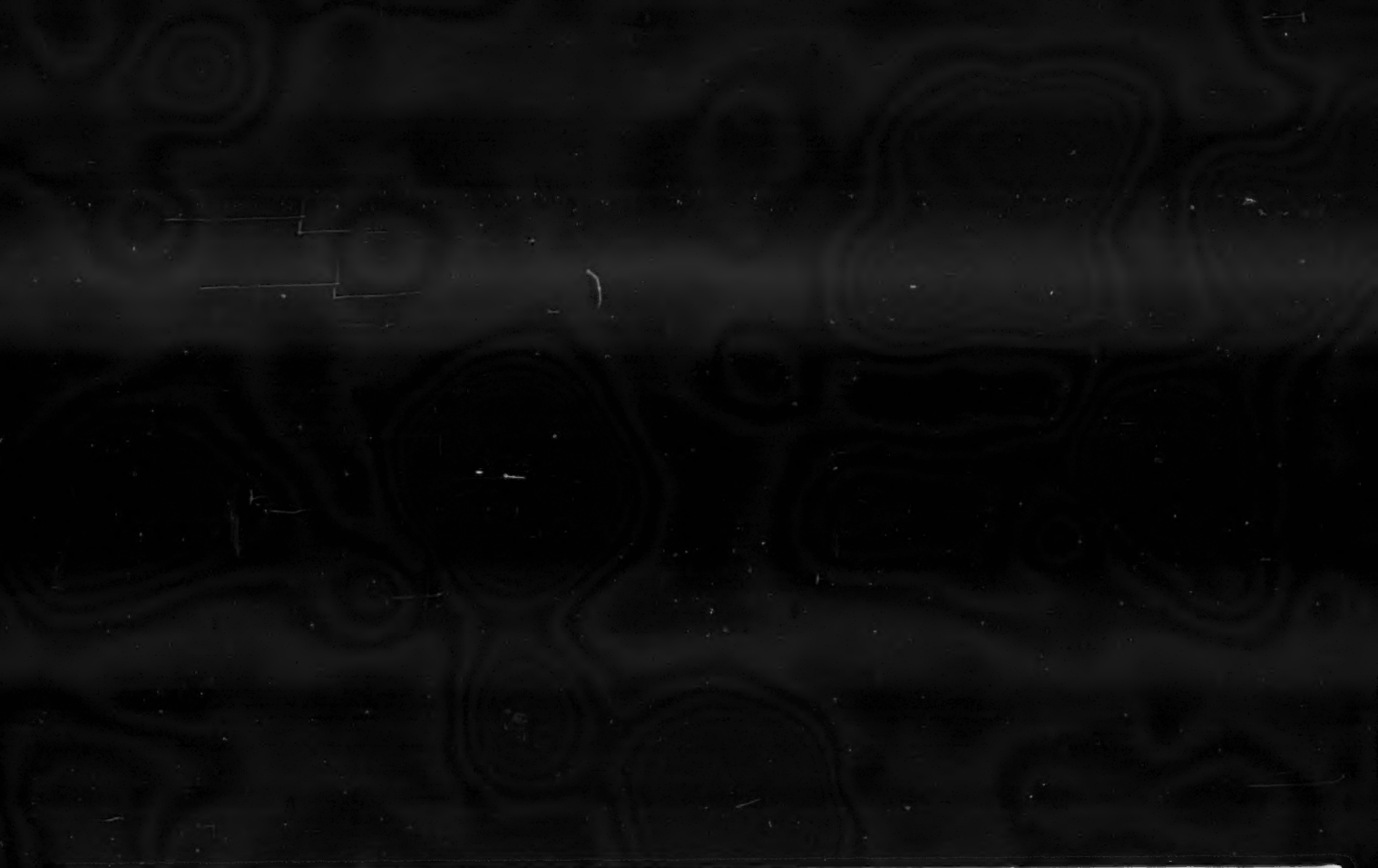
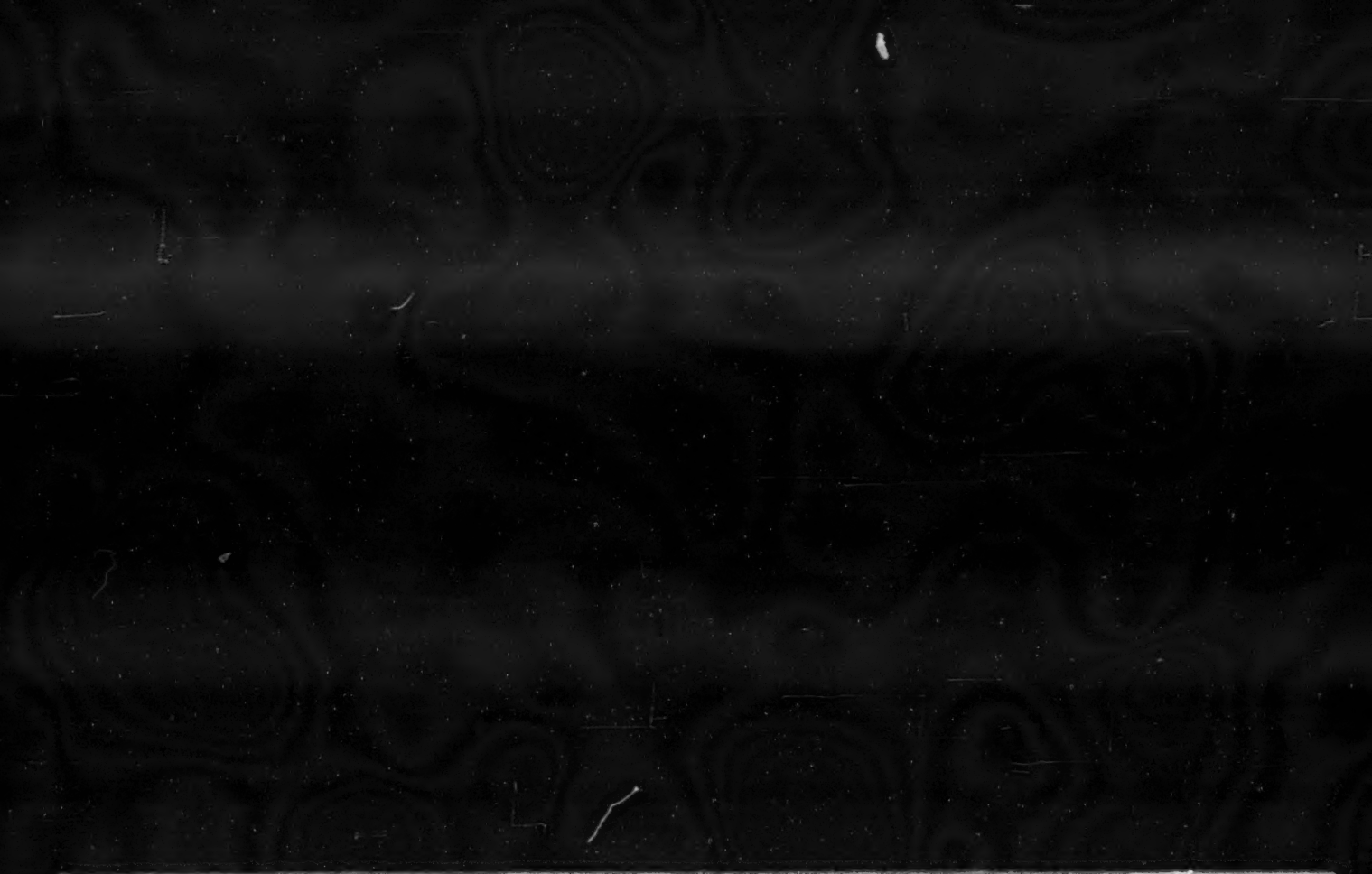
Sykes, E.

MEXICO

Leuze, A.

EIRE

Bennett, J. H.
Gardner, J.
Kelly, T. J.
Lefroy, Lieut.-Colonel H. P. T.
Lefroy, Mrs.
O'Reilly, H.
Pakenham Mahon, S. Hales



CHARLES CLARKE (HAYWARDS HEATH) LTD.,
PRINTERS.